GRANITE STATE

ARCHITECT

FEBRUARY 1964

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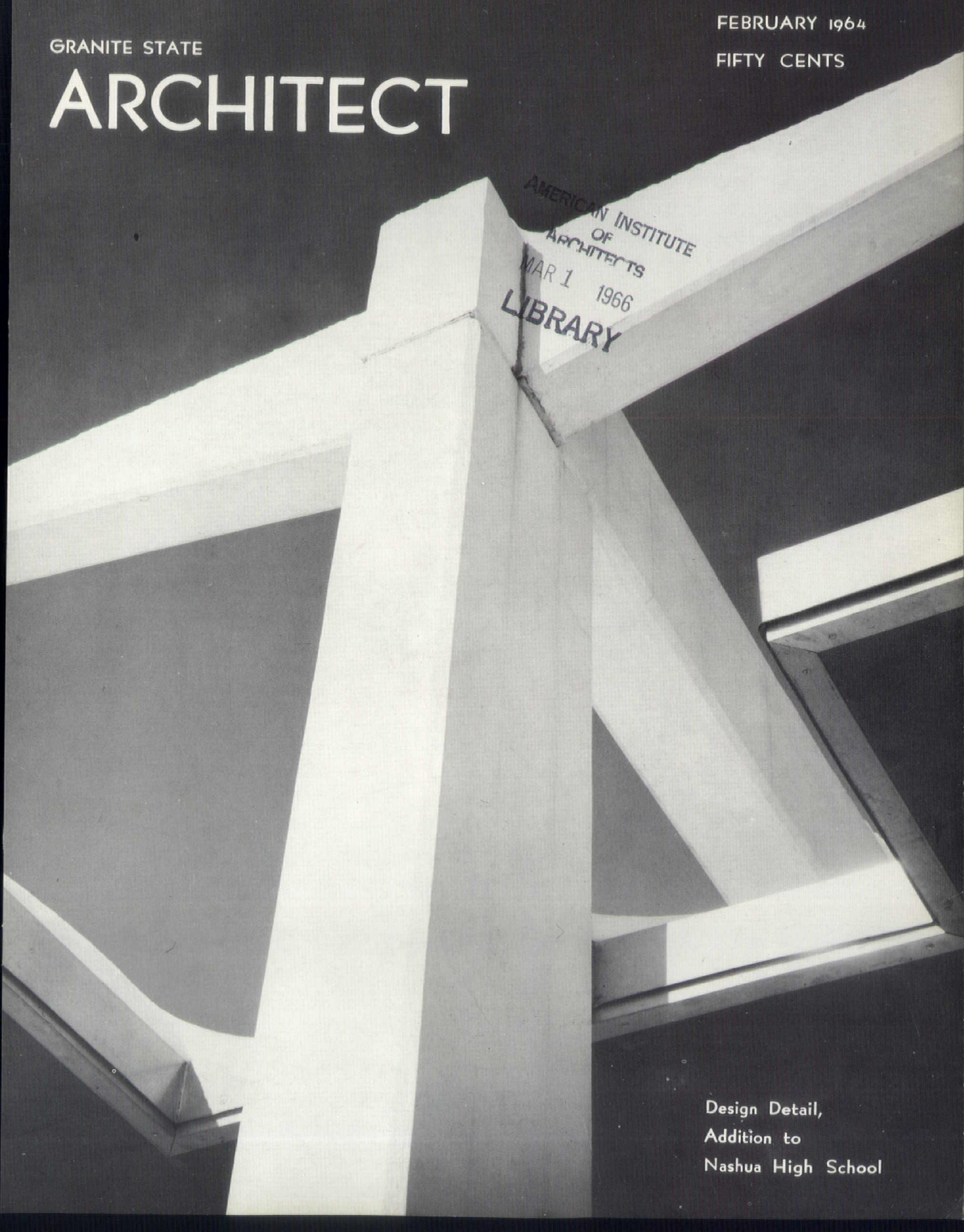

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Addition to
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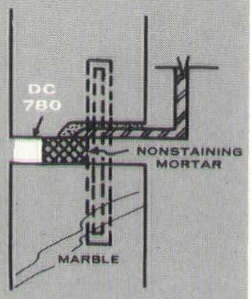

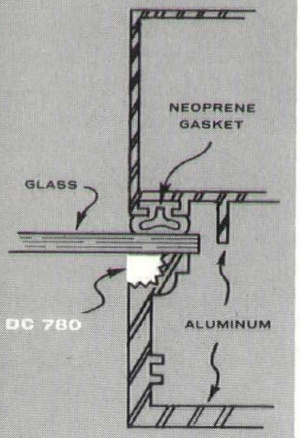

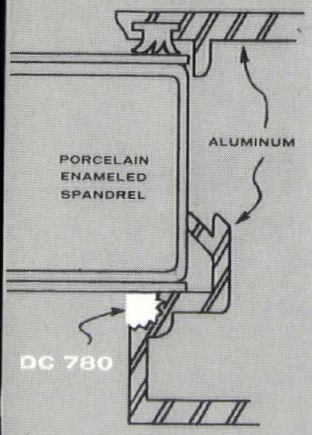

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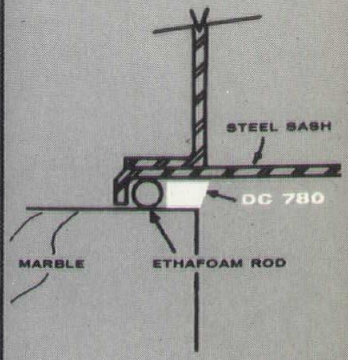

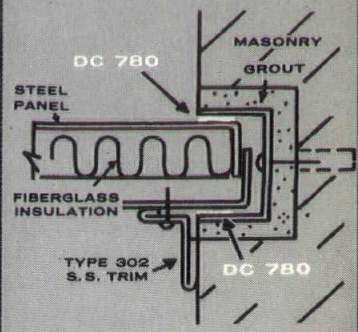

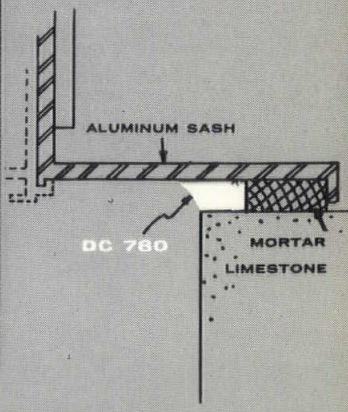

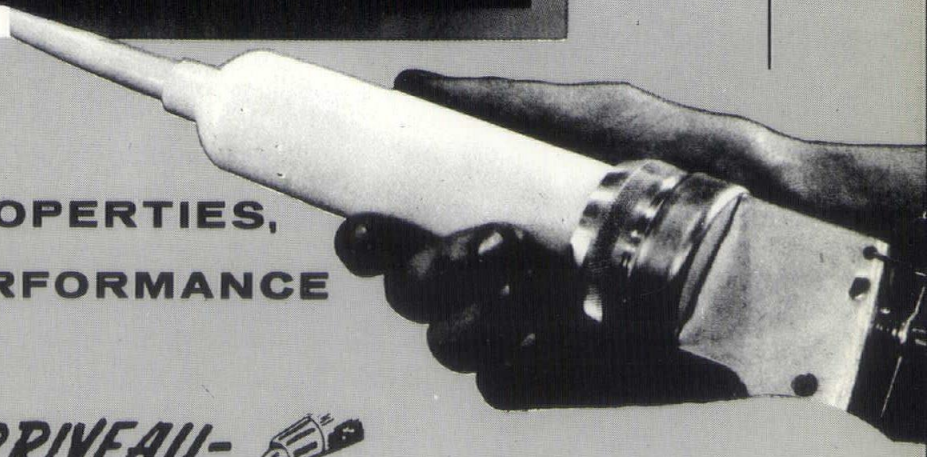

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GRANITE STATE ARCHITECT

VOLUME 1 NUMBER 2

FEBRUARY 1964

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NO. 1 concrete floor joints

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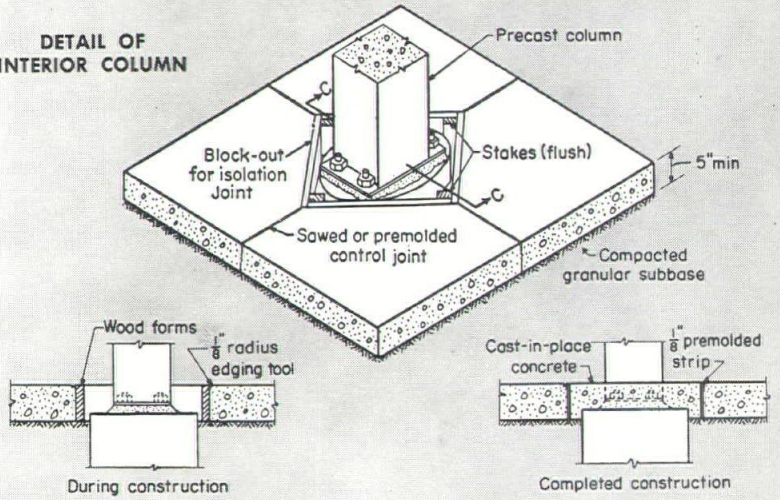
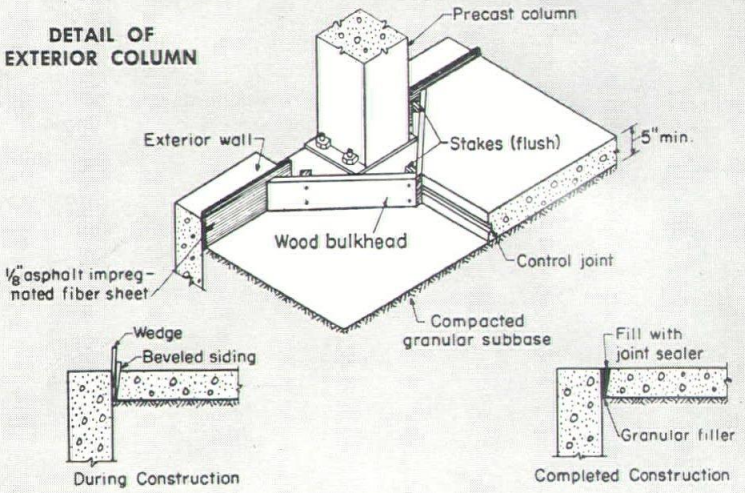


SECTION C-C SHOWING ISOLATION JOINTS

DETAIL OF EXTERIOR COLUMN



ALTERNATE WALL ISOLATION JOINT

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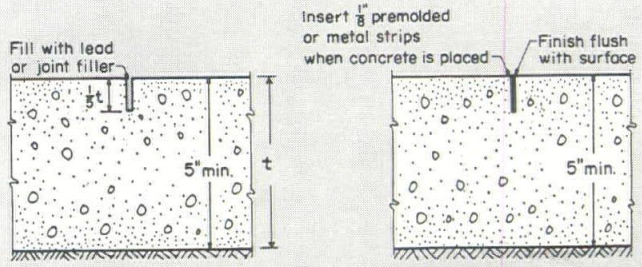

SAWED CONTROL JOINT

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THE CURRIER GALLERY OF ART, Manchester, New Hampshire.

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Apr. 15 - June 1: The Architecture of Manchester, N. H. 1840-1900. Weekdays, 10 to 5; Sundays, 2 to 5.

HEWITT HALL, University of New Hampshire, Durham, N. H.

Jan. 18 - Feb. 13: Student Photographs of Fall Semester.

Feb. 18 - Mar. 18: Color Photographs by Jeanette Klute.

Weekdays: 8 to 6.

HOPKINS CENTER, Dartmouth College Hanover, N. H.

February: Chinese Paintings and Calligraphy by Chiang Yee.

THE LAMONT ART GALLERY of Phillips Exeter Academy, Exeter, N. H.

Feb. 3 - Feb. 17: "Reflections on a Persian Bowl" from Olsen Foundation.

Feb. 15 - Mar. 15: Sumi Painting from Smithsonian Institution.

Tues. through Fri.: 9:30 to 1; 3 to 5; Sat.: 9:30 to 3:30; Sun.: 11:30 to 1; 2 to 3; closed Mondays.

PAUL ARTS CENTER, University of New Hampshire, Durham, N. H.

Jan. 14 - Feb 4: Artists, Authors, and Actors, a collection of print portraits of significant creative personalities of the late 19th and early 20th centuries.

Jan. 23 - Feb. 27: Sculpture by David Von Schlegell.

Feb. 7 - Mar. 1: Photograph Group. A selection of some of the best photographers working in the United States.

Weekdays: 8 to 4; Sat.; 10 to 12; Sun.: 1 to 5.

THE SAWYER ART CENTER, Colby Junior College, New London, N. H.

Jan. 24 - Feb. 15: Collage in San Francisco. Exhibition of Collages by California Artists, circulated by the San Francisco Art Institute.

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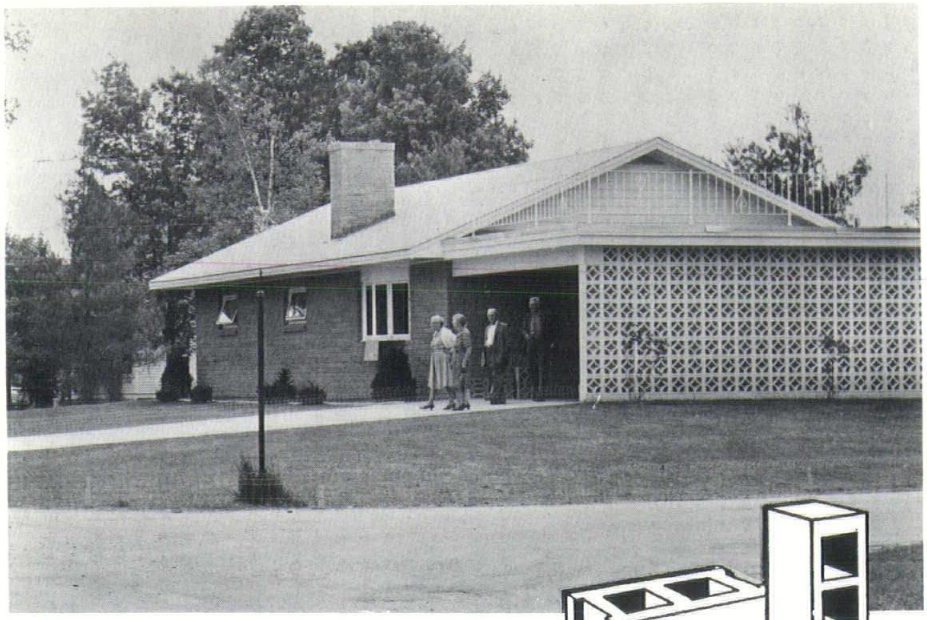

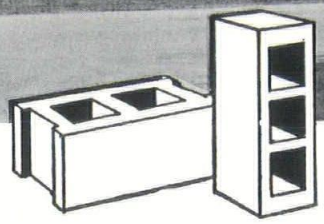

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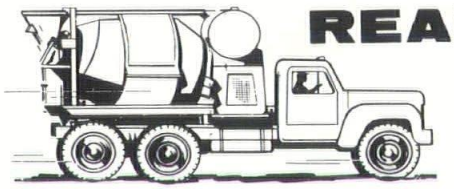

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Notes a

ONE question which arose early in the planning stages of this publication was the matter of critical evaluation. Should the GRANITE STATE ARCHITECT simply be a mirror of present-day construction in this state — or should we express opinions? Should we have a point of view? Should we take sides?

And ultimately it was recognized that we will perforce have a viewpoint; it is there whether or not we consciously take this or that editorial stand. It is there because we choose one building over another, because we scale one photograph to larger proportions than another. We make our decisions because we like this entrance or that facade, and we can hardly help emphasizing what we like. We couldn't avoid it if we tried.

So if we do have a viewpoint, it was decided, we shall not be squeamish in the expression of our views. Tactful, certainly — but also forthright and honest, we hope.

If there are opposing views to ours, we'll be glad to hear them. If an opposing view-holder will take time to write a rebuttal, we will welcome his effort and publish his words. Nothing could give this magazine more vitality than a healthy forum of critical thought.

THE issue at hand is "Conolio" — a loaded word if there ever was one. It is the contemporary artist's derisive term for the quasi-colonial, the reproduction colonial, in present-day architecture.

Comment

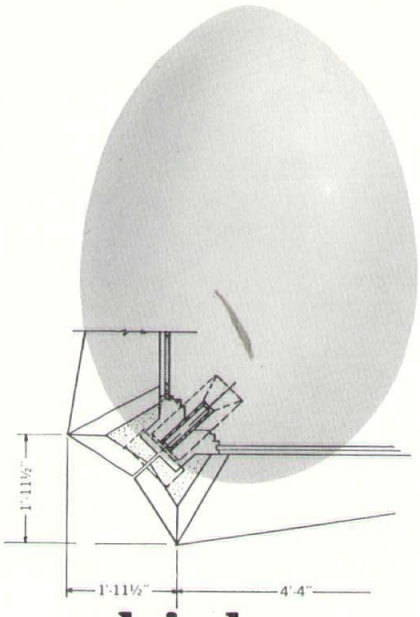
To the sophisticate, this may seem like a dead issue, but as one of our friends commented recently, the colonial supermarket is not yet entirely a thing of the past: First National Stores are putting them up here and there.

But not only supermarkets — dormitories, churches, not to mention homes. Last issue we had a colonial radio station, which is possibly even more anomalous than a historic-looking supermarket.

Our reaction to such an anomaly is that it is unnecessary, to put it in mildest of terms. Why should a building whose essential design and whose function are so overtly twentieth century as a radio station be decorated with colonial doors, facade and cornice in a sort of curtsey to colonial Portsmouth (most of whose old buildings are a considerable distance away)?

The sort of predicaments in which the designer of reproduction buildings finds himself have become minor legends, for instance, in the Gothic quadrangle at Yale, where everything possible was done to re-create fifteenth century buildings and adapt them to twentieth century use. One Yale alumnus remembers these buildings as comfortable — yet we wonder how much might have been achieved if the effort and loving pains which went into copying the Gothic had instead been committed to creating something which would represent our own century in architectural terms.

(Continued on page 50)



which came first?

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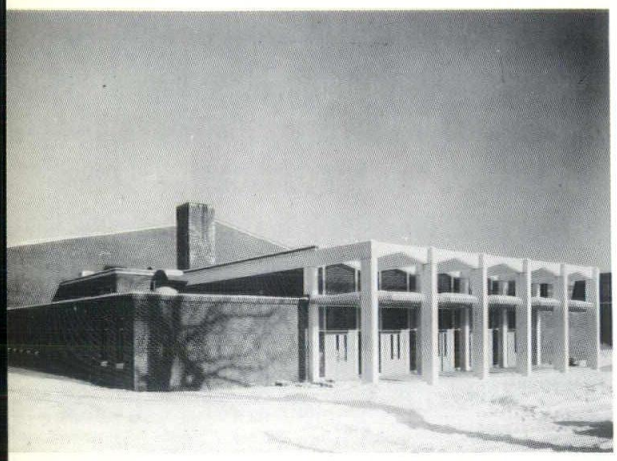
Below, the precast concrete entryway of the physical education wing of the arts addition. At right, structural detail, looking up into peaked roof motif of entryway. Far right, inside lobby, looking out through aluminum grillwork.

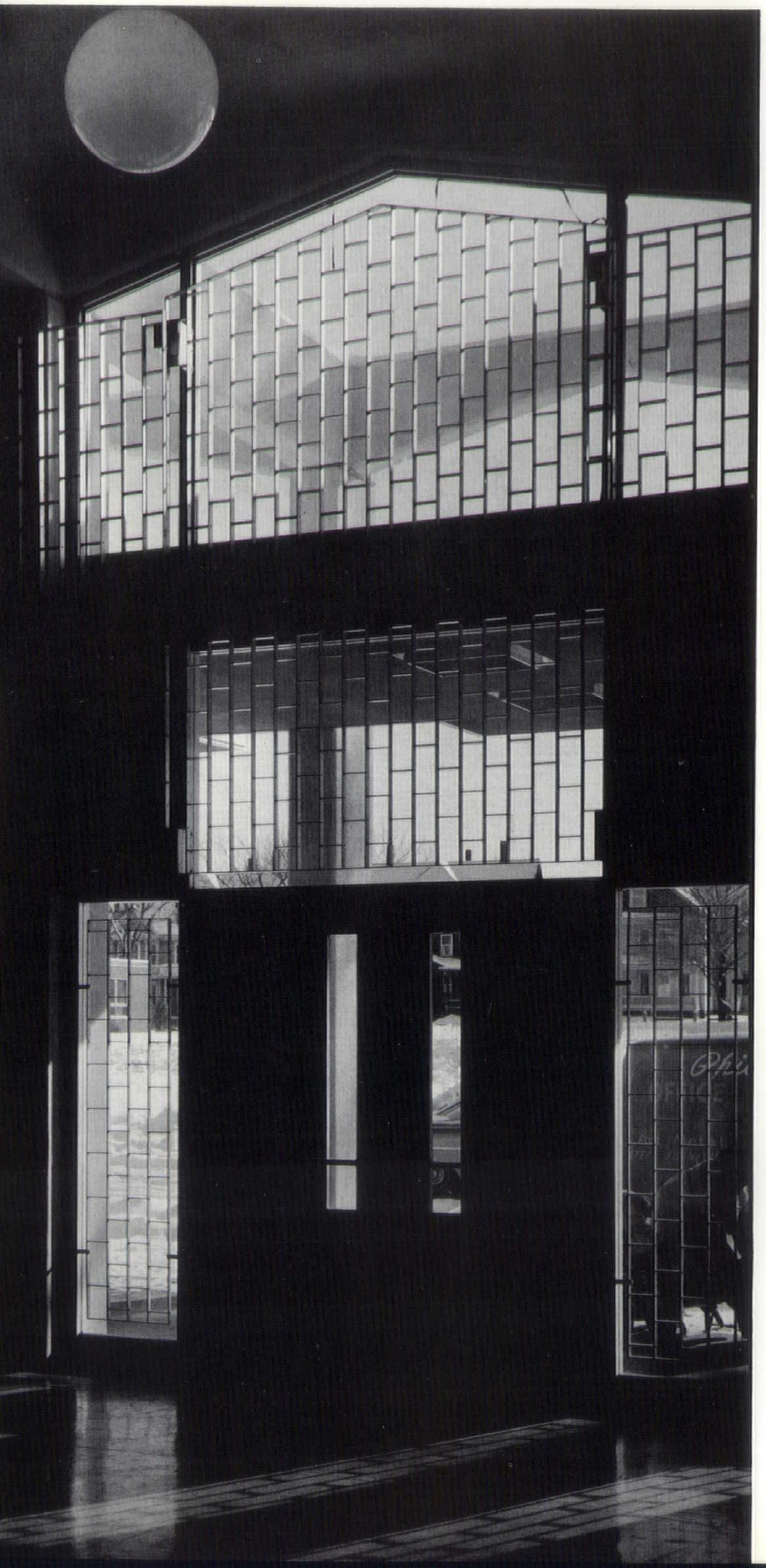


High School Addition

Nashua Senior High School
Nashua, New Hampshire

Architect - Tracy & Hildreth

Contractor - Harvey Construction Company, Inc.



"DOES it work? Does it do a good job? That's the real test of a building — but particularly it's the test of a school." So stated Stephen Tracy of Tracy and Hildreth, architects of the recently completed Nashua Senior High School addition. "Although we wished the school addition to be attractive, its appearance was secondary. We designed it to work."

Nevertheless, the architects were faced with a very real problem in esthetics while involved in the functional planning of the school addition. The Nashua Senior High School is Georgian Colonial, red brick with white accents. Should the proposed addition conform in period and design to the existing building or should it be contemporary?

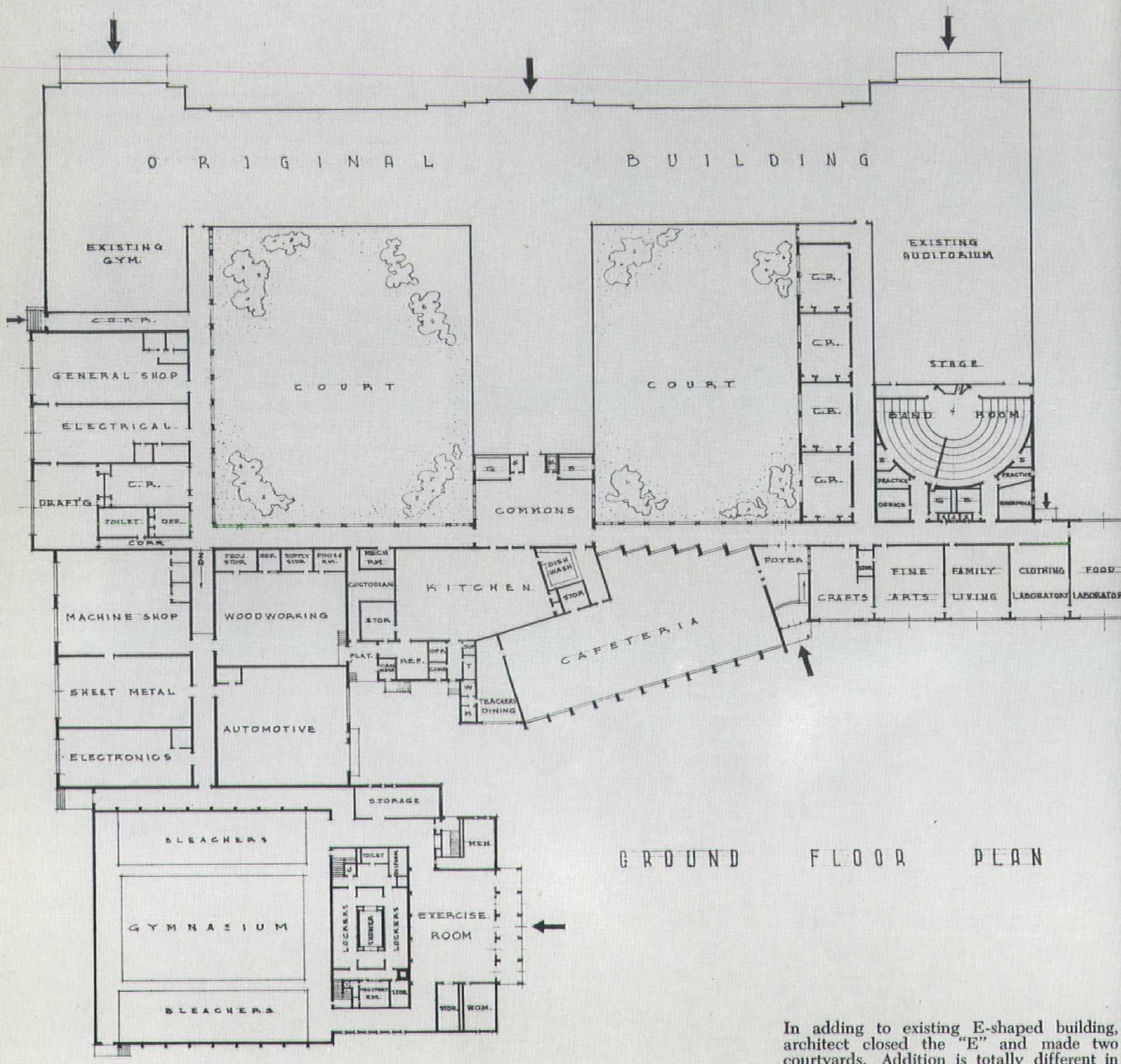
"We provided two preliminary studies," states Mr. Tracy. "One was Georgian Colonial, one was contemporary. We frankly stated that we preferred the contemporary structure we were suggesting. Why? Because contemporary architecture allows so much more freedom in treatment. Georgian Colonial restricts the architect with such prerequisites as small windows; Georgian Colonial doesn't reflect its inside on the outside. The viewer has to guess what's behind the walls."

The Nashua Special Joint Building Committee, twelve aldermen and twelve school committeemen, agreed on the contemporary design. Tracy and Hildreth planned the addition to harmonize with the Georgian Colonial original building: the brick of the new building matched exactly the brick of the older structure; the white accents on the older building are reflected in the white structural concrete accents of the addition.

Relationship to the older structure, both as to site and as to internal classroom planning, dictated many of the decisions relating to the new building.

The high school occupies a site bounded by four streets. The old Georgian facade, facing east, stretches along one side of the block; the

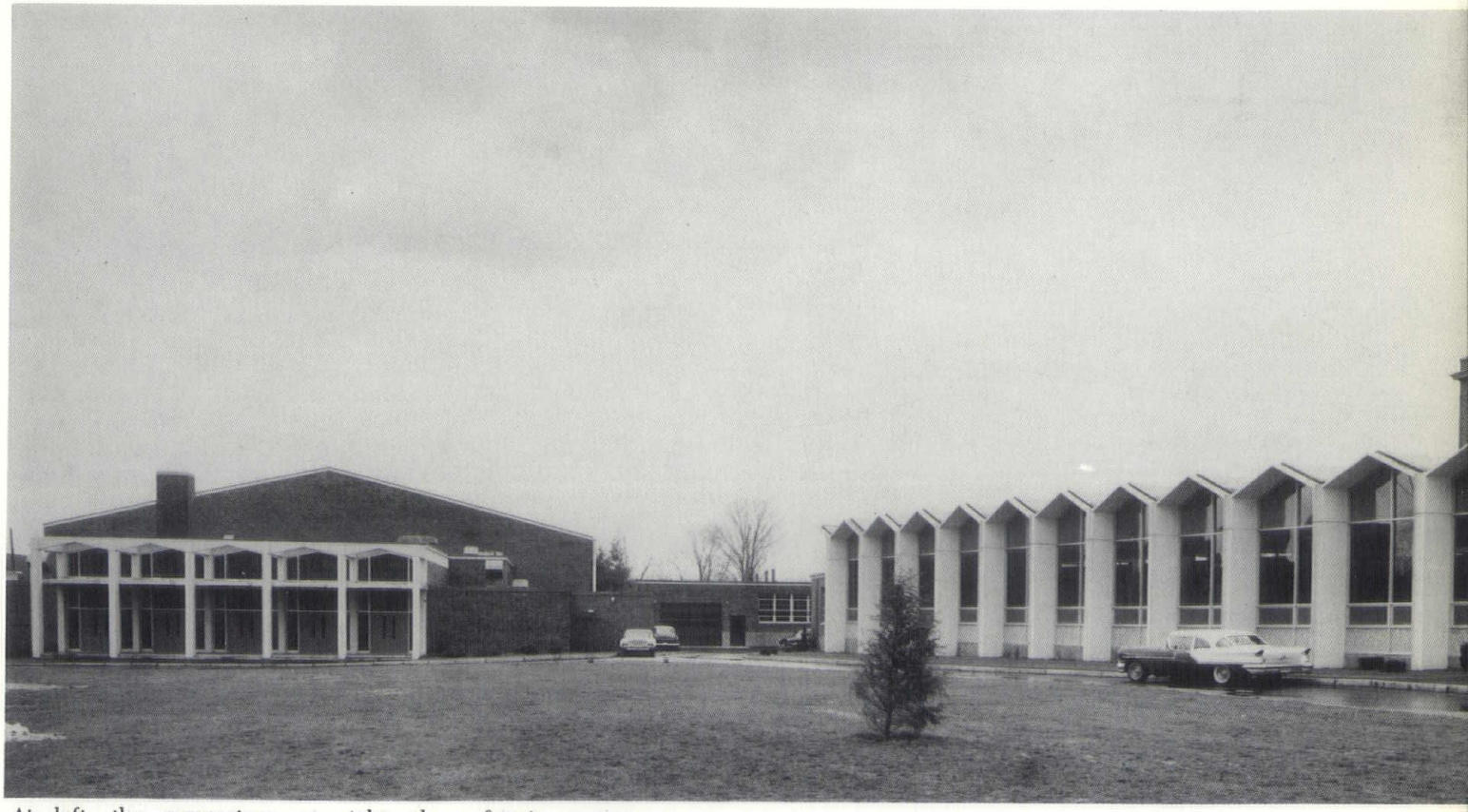
(Text continued on page 40)



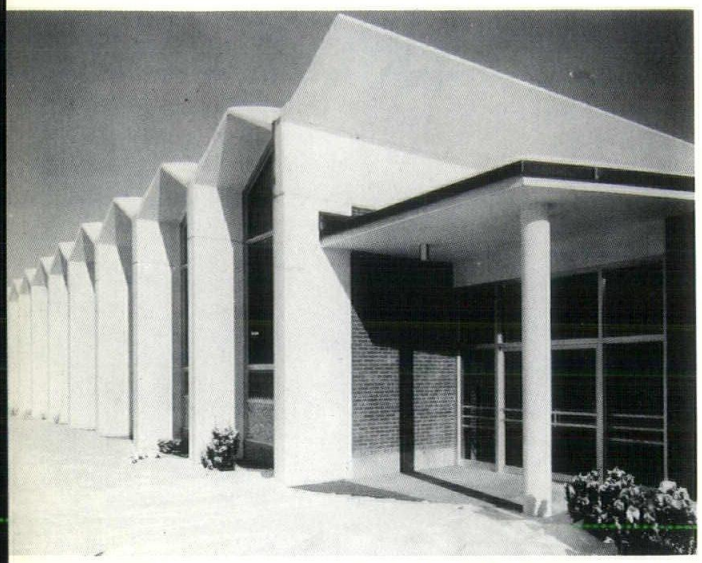
GROUND FLOOR PLAN

In adding to existing E-shaped building, architect closed the "E" and made two courtyards. Addition is totally different in style and feeling from old building, but the two are never seen at once, facing, as they do, upon different streets.

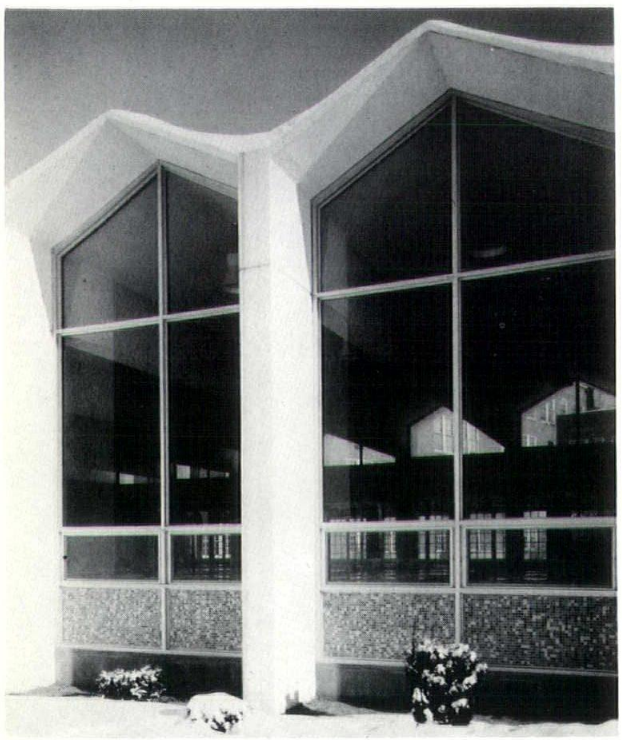
Striking facade of cafeteria, formed by twelve precast concrete columns surmounted by precast "Y" sections.



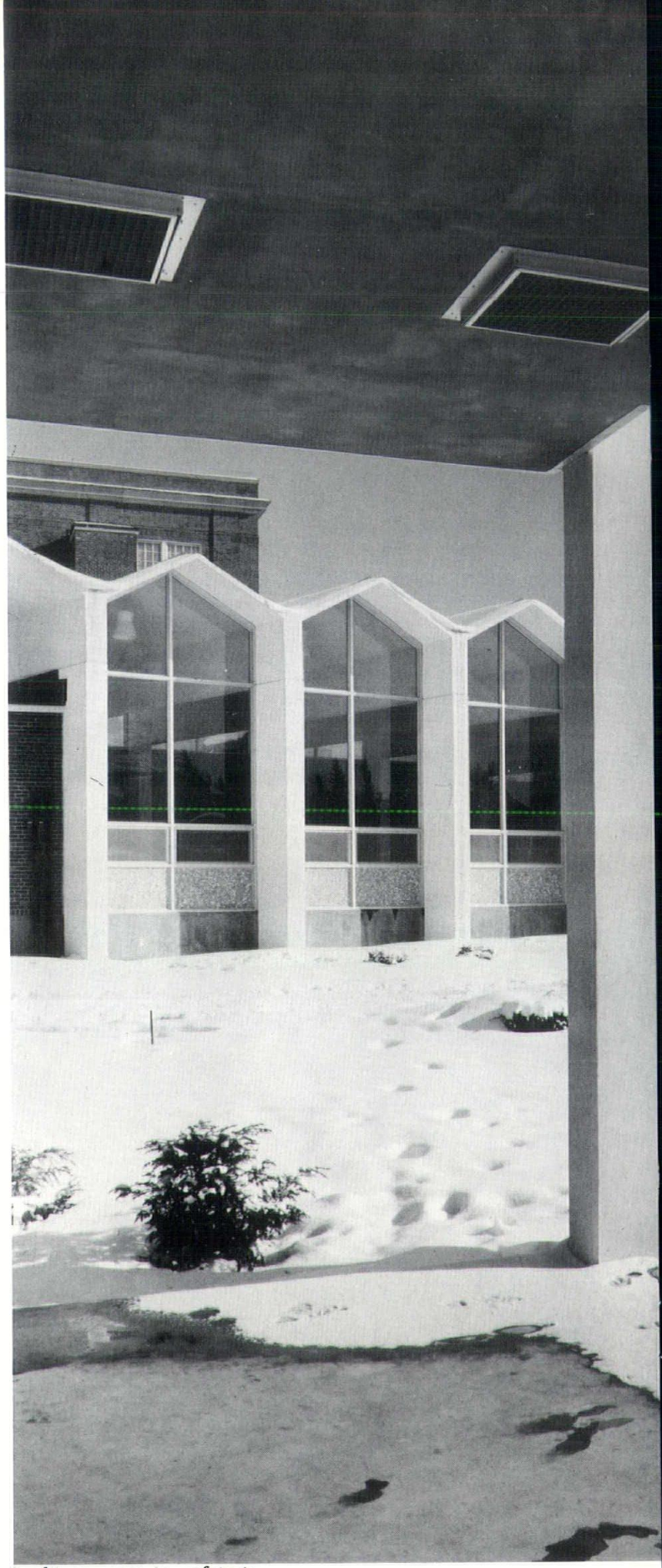
At left, the gymnasium; at right, the cafeteria; center, drive-in entrance overhead door of automotive shop.



Stretching beyond addition's central entry are cafeteria's roof peaks.



Addition's interior wall and courtyard facade viewed through cafeteria windows.



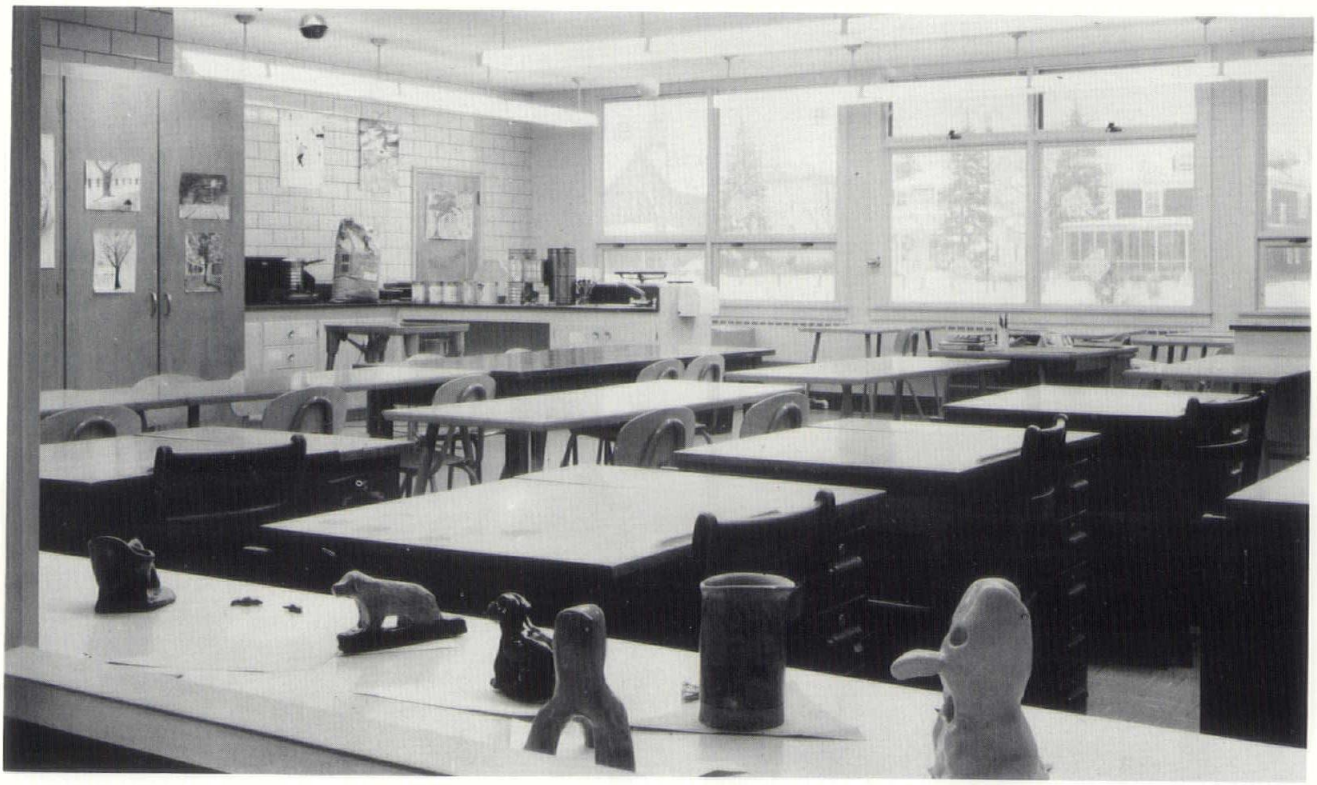
Looking across to cafeteria from gymnasium portico.

Staggered walls, folded plate roof dampen normal cafeteria sounds.

Industrial arts department shops exceed state requirements, provide comprehensive curriculum.

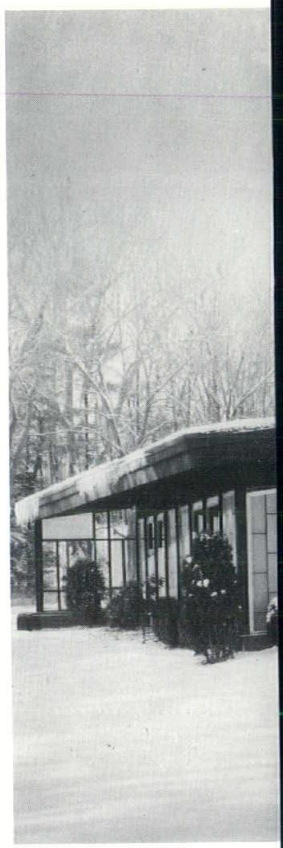
Pink kitchen cabinets, soft lighting contribute to home-like atmosphere.

A completely enclosed amphitheater, the band room can be divided into two soundproof areas.



Viewed through windowed corridor wall, classroom specially equipped for arts.

Dramatic reception area, glass-framed.



Agency

Architect —
Soule Associates

Contractor —
Henry A. Zankow

Owner —
Weston Associates,
Manchester, N. H.

Glass, dark-stained wood, orange-accented Kalwall panels form facade.

Offices

CREATIVITY: a quality indispensable both to advertising and to architecture. What happens when an advertising man, Mervin Weston, asks an architect, George Soule, to create a building which will express architecturally the creative personality of an advertising agency, Weston Associates, Inc.?

A unique situation? One might think so. Yet listen to the familiar comments of architect and client:

Architect Soule says, "Like any other client, he walked in with a floor plan already drawn. He even had room sizes in mind."

Client Weston says, "Naturally I gave him a floor plan. You have to do that for any architect." And Weston notes the finished plan is very like the one he sketched.

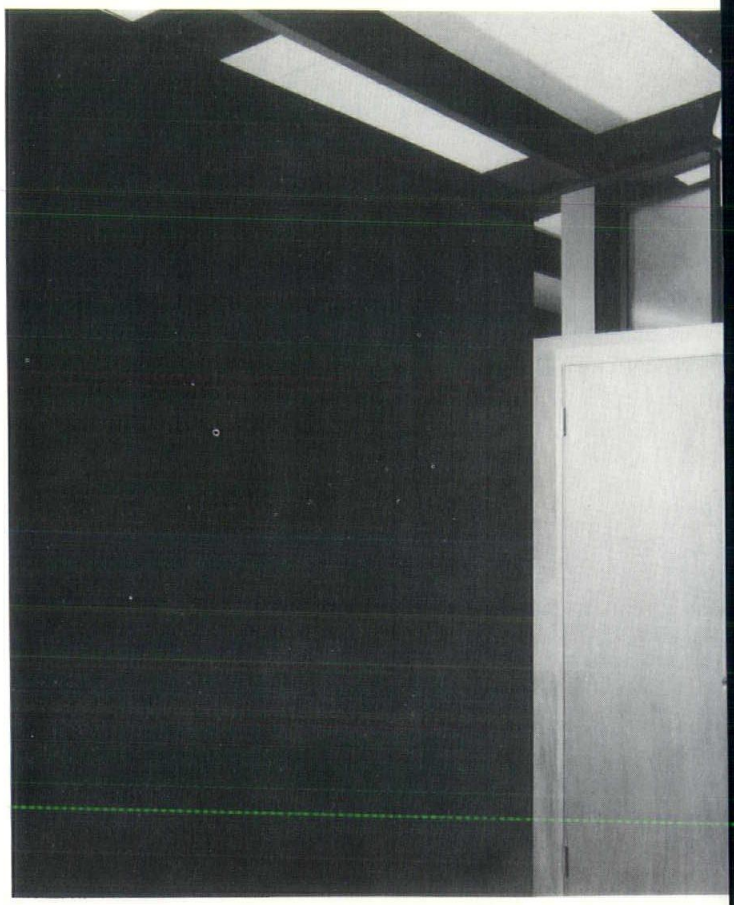
The problem was the designing of an office building with a distinctive personality, attention-compelling, impressive. Needed: 5 executive offices, a conference room, a reception area, 2 smaller offices, and areas for production, art, and copy departments, toilet facilities, and a kitchen. In addition, since the business was growing rapidly, the building had to be designed with a capacity for easy expansion.

There was no doubt in the mind of either client or architect that contemporary design was indicated.

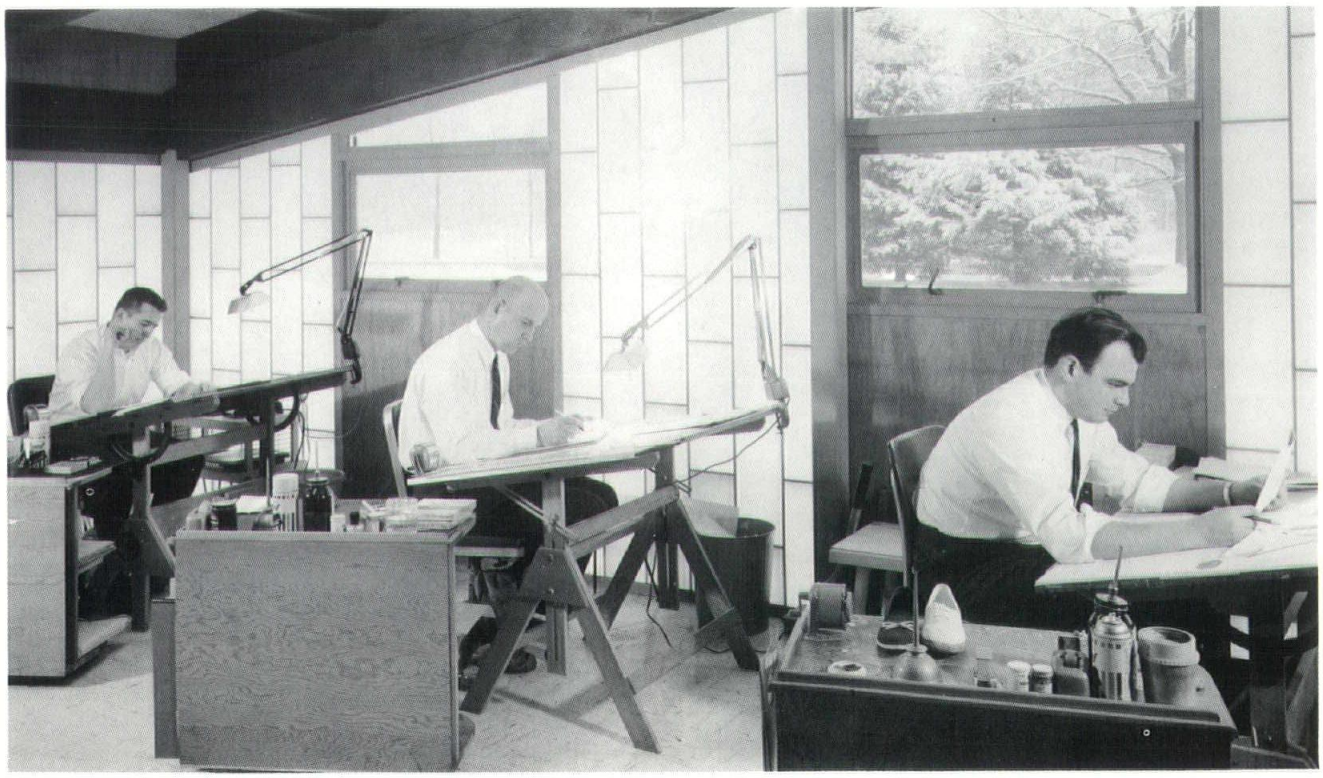
The first set of plans and elevations were designed for a site to which—it was discovered only an hour before sale was consummated—there was no access! The second and final site was in Bedford where some elements of the community were eager to broaden the town's tax structure by the introduction of service businesses in attractive buildings. Other Bedford residents wished to retain the status quo of a bedroom community.

(Text continued on page 44)

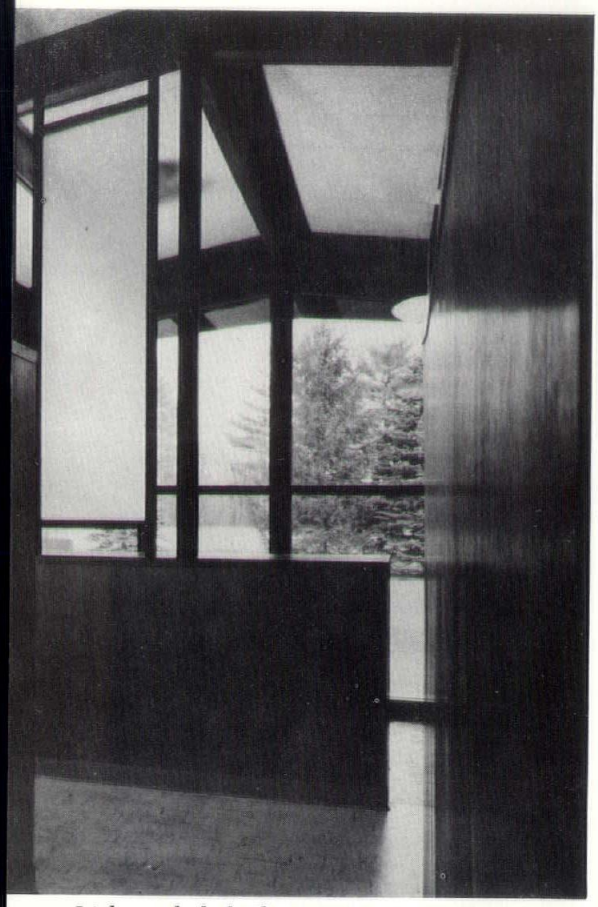
View from rear of building, addition at left.



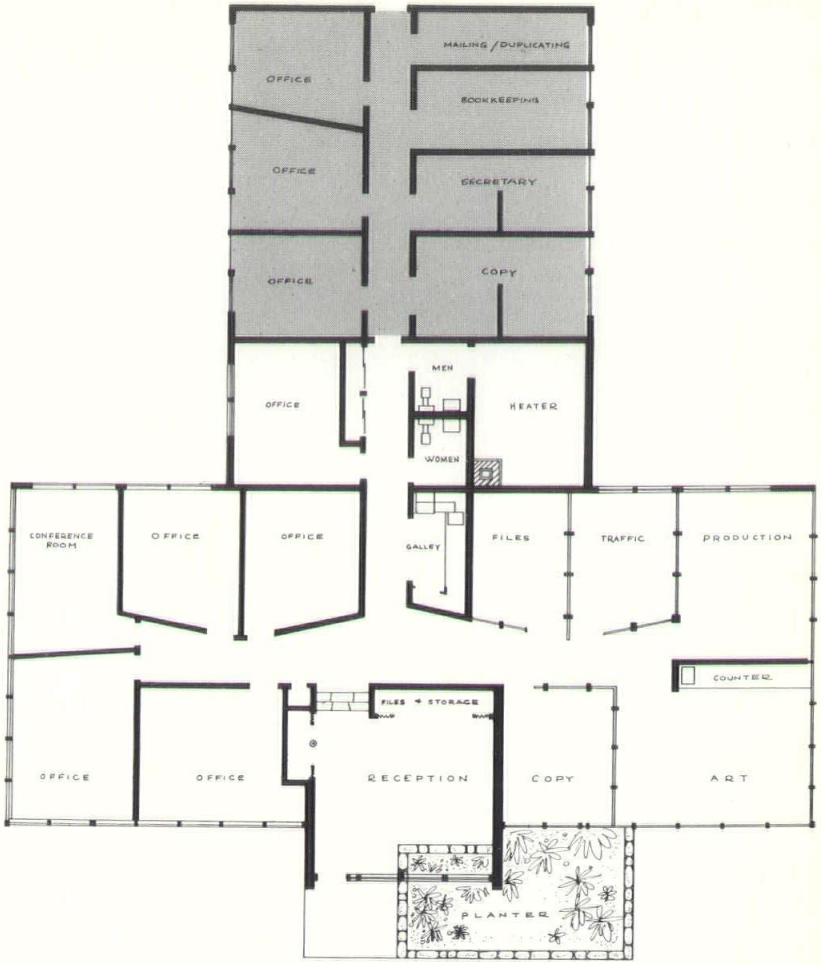
Six-foot partitions line hallway to art department.



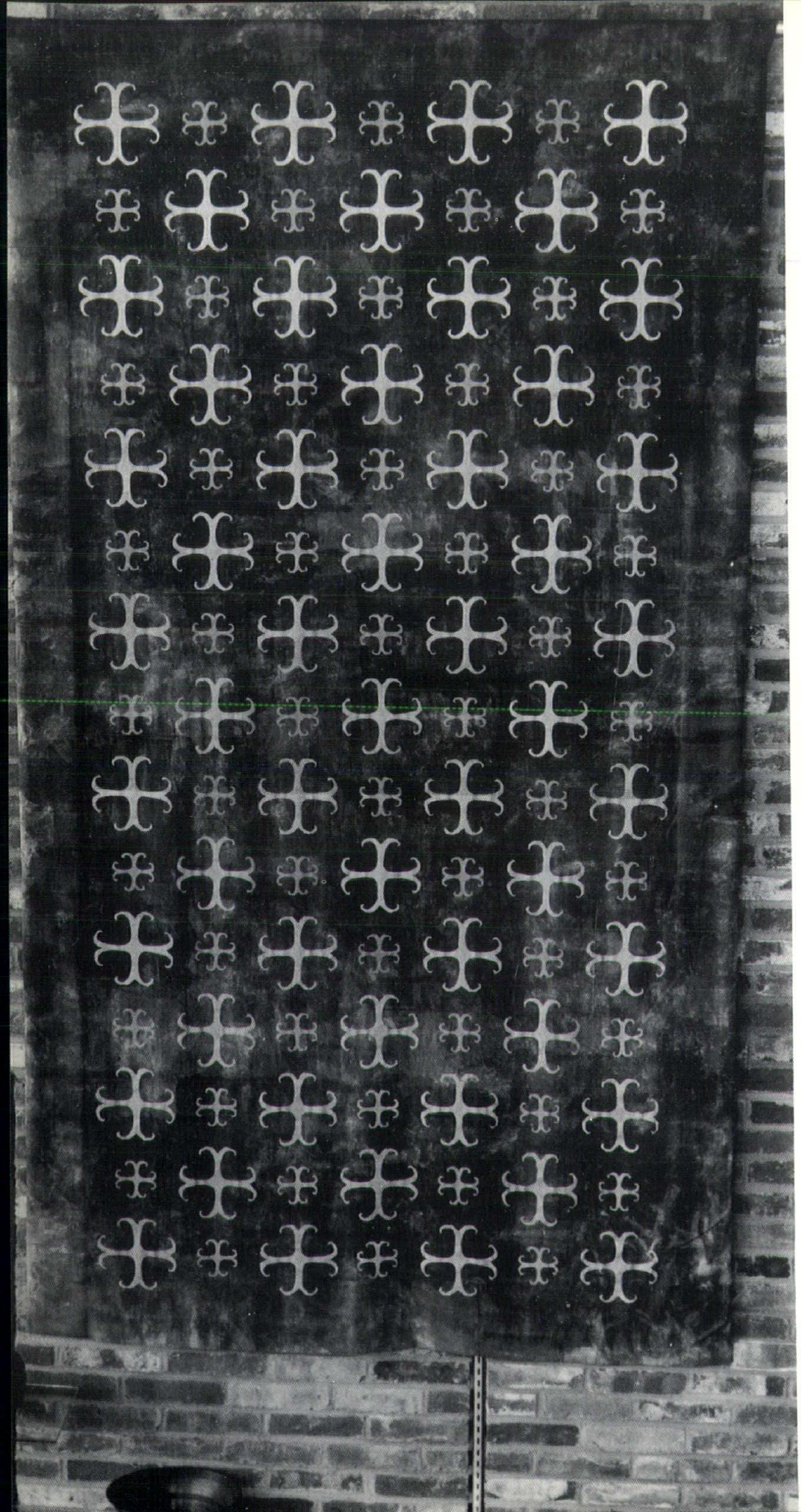
Art department benefits from north exposure, translucent walls.



Light and dark: beams, panels, mullions, glass.



Rear view of addition (at left). Greyed area in plan above represents addition.



Hand Printed Textiles

SOME of the finest examples of New Hampshire craftsmanship have come from a small shop in Andover. Albert and Maxine Boyd, husband-and-wife partners in the designing and handprinting of textiles, have fulfilled commissions in the field of religious design for E. H. and M. K. Hunter of Hanover, and Carter and Woodruff of Nashua, and many others. Although they work to meet the needs of an individual installation when necessary, they also produce wall hangings for sale in fine shops in Boston and New York, and in the shops of the New Hampshire League of Arts and Crafts.

The Boyds are active teachers in

the New Hampshire League, and have demonstrated their talents at the New Hampshire "Craftsmen At Work" Fair in Wolfeboro.

They have had pieces in most of the national craft exhibitions, and are currently exhibiting in "Craftsmen of the Eastern States" at the Museum of Contemporary Crafts in New York City. The Boyds' list of awards includes honorable mention in the "Contemporary Liturgical Art" exhibit of the Roman Catholic Church of the Diocese of Philadelphia for a wall hanging, "The First Day"; honorable mention in the 1961 Church Architectural Guild Craft Exhibition in Pittsburgh; and in "Church Art Today," an exhibit by Grace Cathedral in San Francisco, for another wall hanging, "Moline Crosses." This hanging, which was first exhibited in "Designer Craftsmen 1960" at the Museum of Contemporary Crafts, is now owned by the Church of Christ at Dartmouth College.

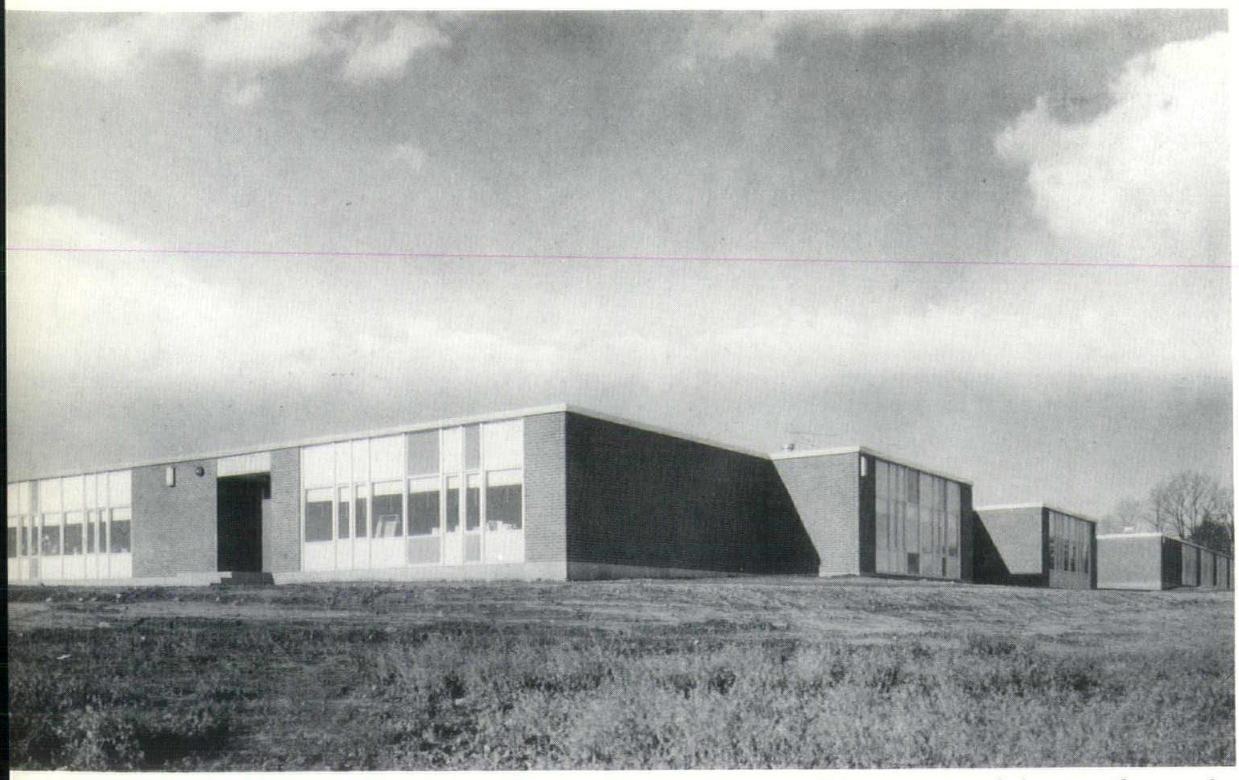
The Boyd commissions hang in the State House in Concord; the design for the stage curtain for Sawyer Hall at Colby Junior College in New London is also the Boyds'. Other works by the Boyds may be viewed in the Proctor Academy Library, the Lutheran Chapel of Our Savior in Hanover, St. Paul's Church in Concord, the First Congregational Church in Keene, the First Congregational Church in Milford, and many churches throughout the nation.

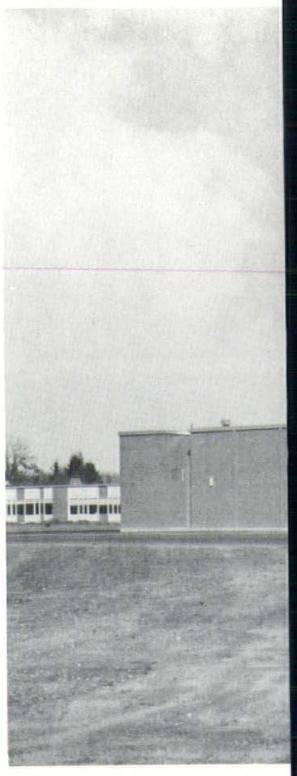
Mrs. Boyd is a graduate of Occidental College in Los Angeles and attended the Art Students League in New York City and the Pennsylvania Academy of Fine Arts in Philadelphia, where Mr. Boyd also trained. The Boyds first studied silk screen printing at Glendale College in California. Mr. Boyd is presently teaching art at Proctor Academy in Andover.

Above:
In Hanover Lutheran chapel, opaque design of rectangles is overscreened, embellished with symbols.

Left:
Drape in conservative setting (Proctor Academy Library) is interesting but not more important than its nature warrants in overall architectural order.

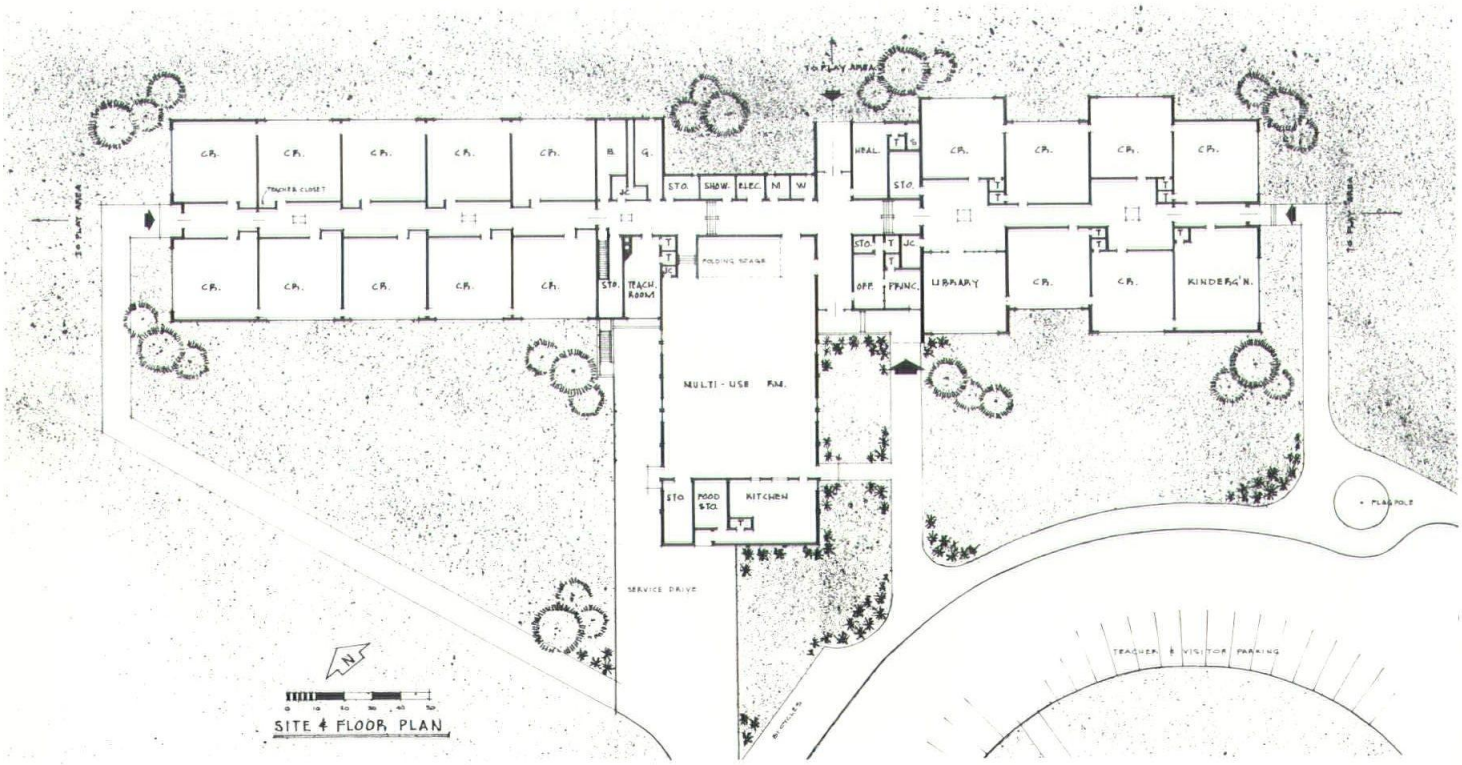
Facing page:
Larger crosses form a surface which stops the eye initially; then smaller crosses allow a second plane; then the eye travels through transparent material to brick pattern; thus the fabric assumes a spatial quality.

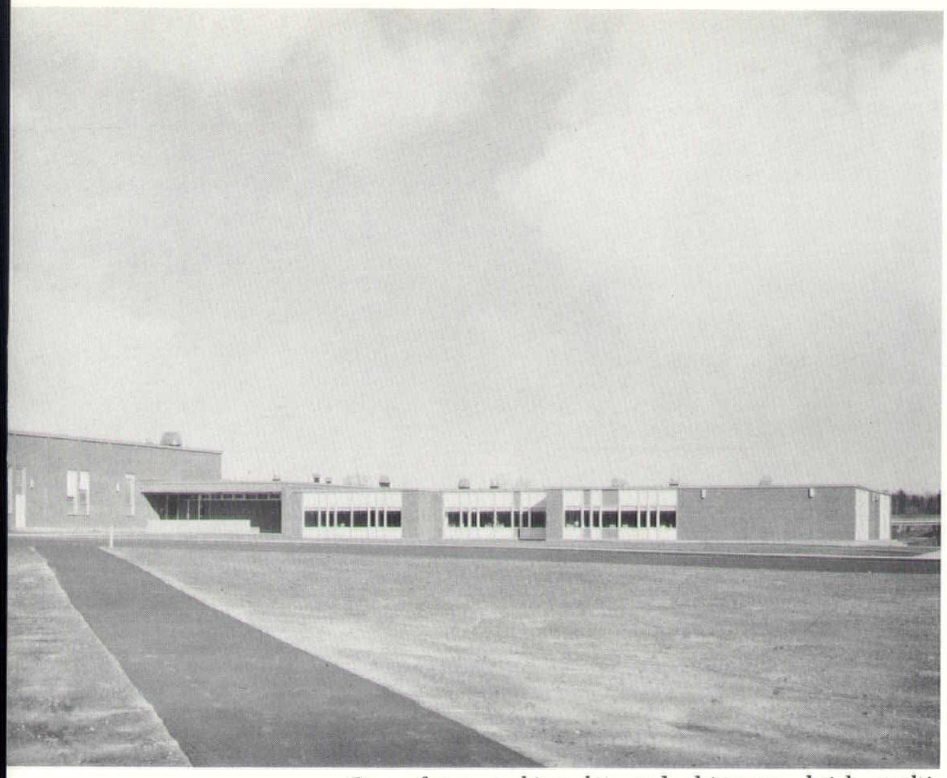




K-3 wing, viewed from south-west, has staggered classrooms, auxiliary exit.

Green Acres





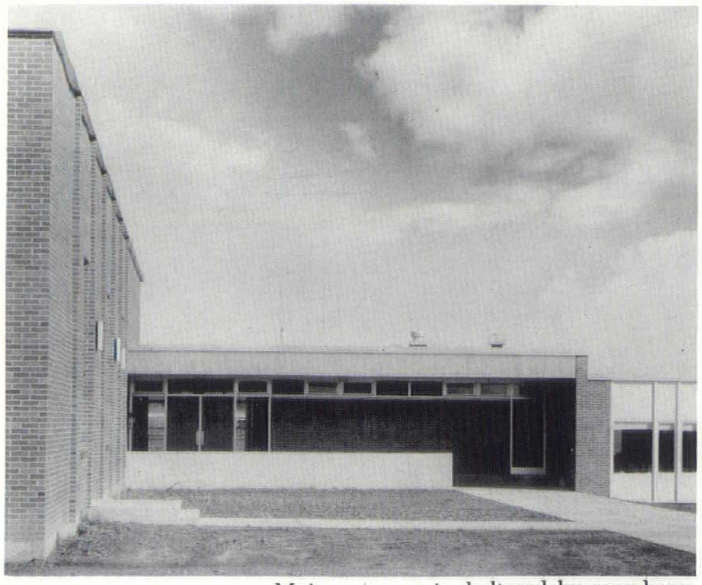
Seen from parking lot and driveway, brick multi-purpose room almost hides broad expanse of 4-8 wing.

School

Manchester, N. H.

Architect — Andrew Isaak
Associate — John Betley

Contractor — Caron Construction Co., Inc.



Main entrance is sheltered by over-hang, provides dry area for waiting children.

"THE biggest school bargain Manchester ever got." Those are the words of Commissioner of Education Paul Farnum, describing the recently completed Green Acres School. The 17-classroom school was designed to a rigid budget, $500,000, which had to include site costs, borings, fees, and all other miscellaneous expenses, including as much equipment as possible. Cost of the building itself was $425,000.

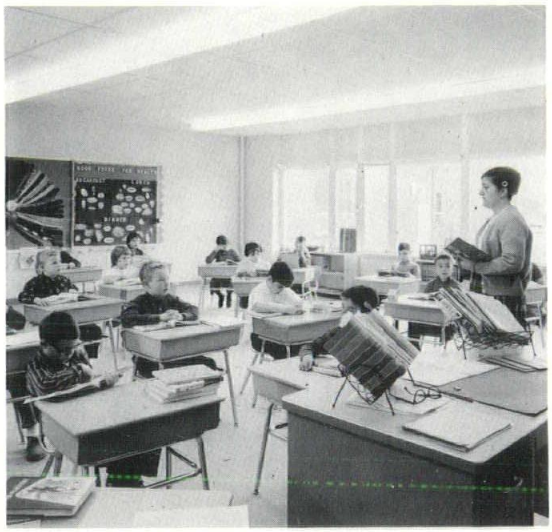
To keep costs within these severe restrictions, the architect, Andrew Isaak, eliminated such items as canopies over entrances and roof overhang (for sun control), economized on size in shower and locker rooms, and combined many school functions in a "multi-purpose room."

Isaak's firm prepared seven preliminary plans for the Green Acres School. After the design was 75% complete, the Manchester Joint School Building Committee, three aldermen and three school board members, determined that the proposed building site must be changed because of ledge conditions and drainage easements. (The architect had not been consulted during site selection.) Plans had to be completely redrawn. And then followed a crash program to get the plans completed, the school under construction and finished by the due date of October, 1963. Double session conditions were in prospect for the youngsters now at Green Acres until the new school was completed. The school was finished on time, an accomplishment which Isaak attributes to the efficiency of the general contractor, Caron Construction, and their exceptional coordination of sub-contractors.

Original plans provided a separate wing, extending opposite the administration area, to house a physical education complex: gymnasium, lockers, showers. The present multi-purpose room, then proportionately

(Text continued on page 38)

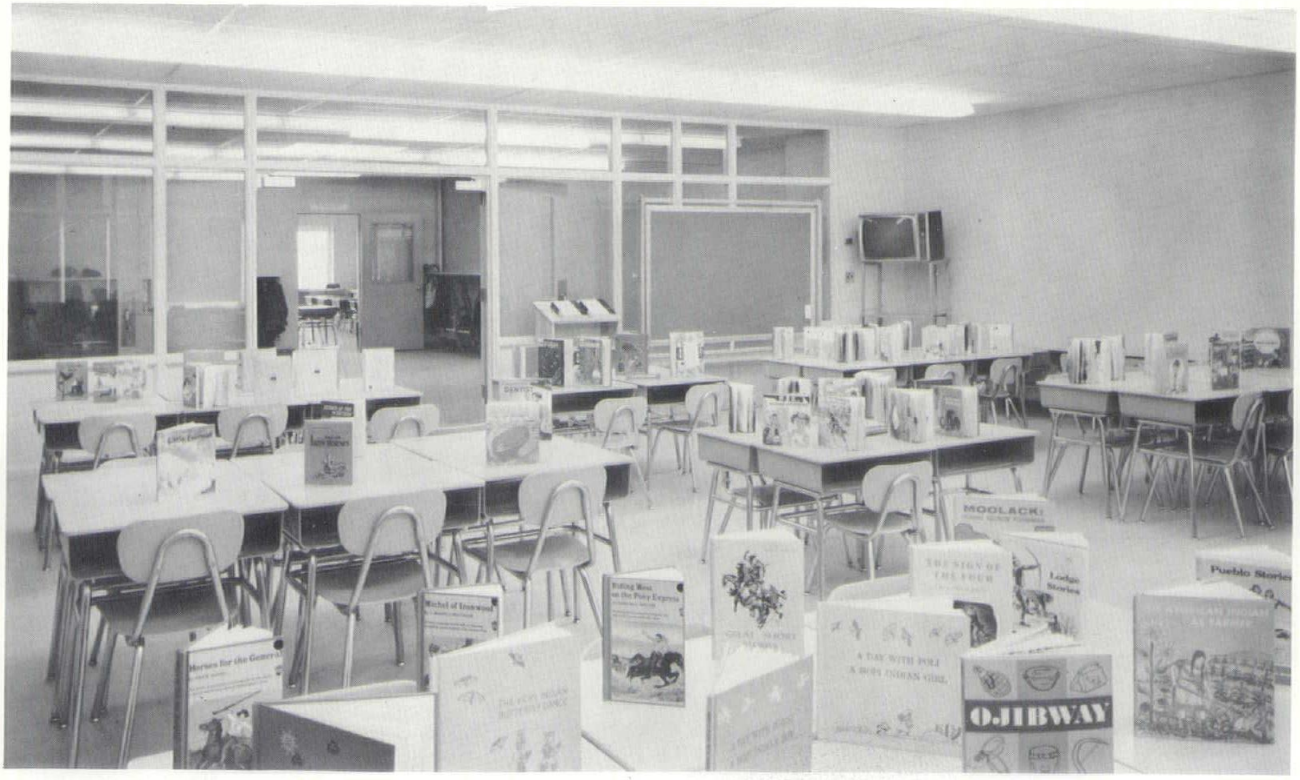
Stackable tables and folding chairs fill the multi-purpose room at lunch-time each day.



Brightly lighted classrooms, light colors provide cheerful atmosphere.

Kindergarten, at extreme end of K-3 wing, has movable tables, play area.

Tables and chairs cleared away, the multi-purpose room serves its gymnasium function.



Window wall of library repeats 4-2-2-4 pattern of exterior wall panels. Broad hall of K-3 wing is seen in background.

Compact kitchen complements multi-purpose room, serves 300 hot meals.

Owner —
Kidder Press Company, Inc.
Dover, New Hampshire

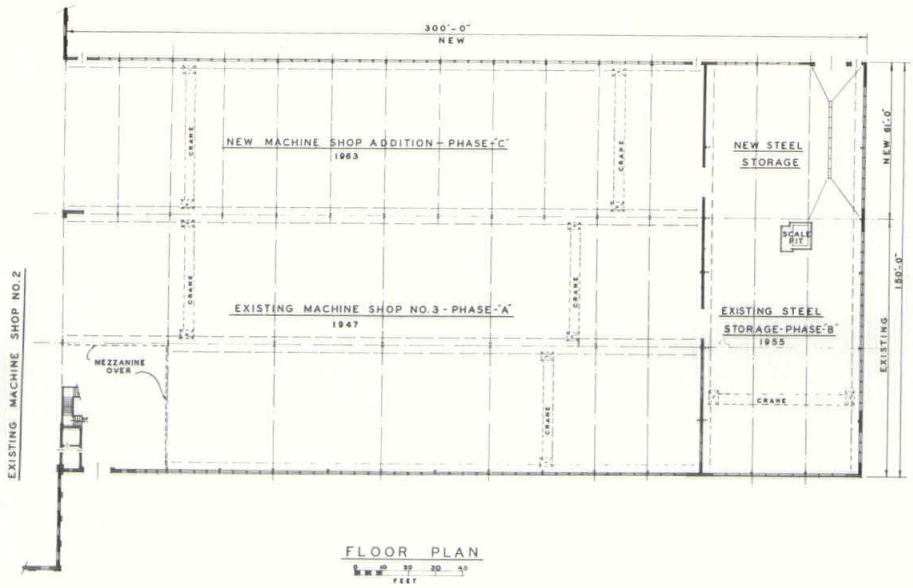
Architect —
Maurice E. Witmer

Contractor —
Welbilt Construction, Inc.

Machine Shop

Exterior skin is Natco tile, much larger than conventional bricks. Light-directional block separates low and hi-bay glass window units.

Column of supports at left was once exterior wall of old bay. Wall elements were removed and partly re-used in the new wall at right.



KIDDER PRESS CO. INC. — MAIN PLANT - BROADWAY
DOVER, NEW HAMPSHIRE

LIGHT was a prime consideration for both architect and client when Kidder Press of Dover recently increased floor space by more than 50% at Machine Shop #3. In this building, the heart of the machine part lathing and shaping operation of Kidder's printing press manufacture, some machine components require tolerances of as little as one-thousandth of an inch. So Architect Maurice Witmer set about providing as much natural and artificial light as possible, directed where it is most needed.

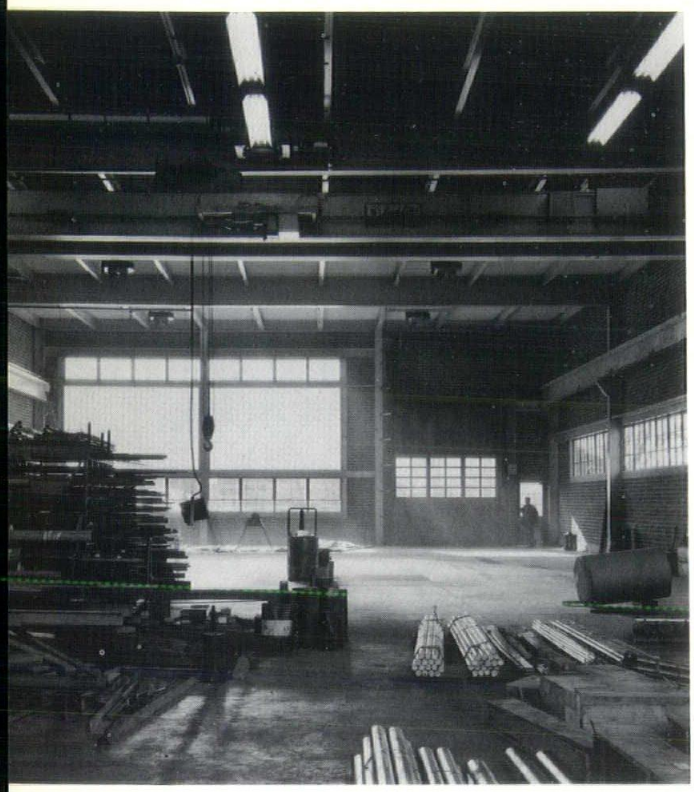
The special lighting problems of Kidder Press were attacked with round-the-clock studies before the new bay was added. For several months, experimental lighting was set up, then modified after testing, until ultimately two different types of lighting were selected: hi-bay incandescent lighting combined with fluorescent lighting just above crane level. This combination provides maximum lighting at each machine, an overall light intensity of 50-60 foot candles, comparable to the lighting in the average modern office. The lighting can be augmented by focus lighting on certain precision machines.

Light streams in through the windows as well: clear glass in low-bay units, and vent units with transparent glass in hi-bay units. The large wall panel between the transparent units is a light-directional block which reflects 70% of the transmitted light toward the center of the building.

Construction of the new bay required drainage of the hill in back of the plant to lower the water table and redeem the land for industrial use. This was accomplished by the introduction of 24″ conduits under the building with 8″ tributary lines around the perimeter and under the floor slabs. The system flows into a natural drainage ditch and thence into the Cocheco River at the rear of the parking lot.

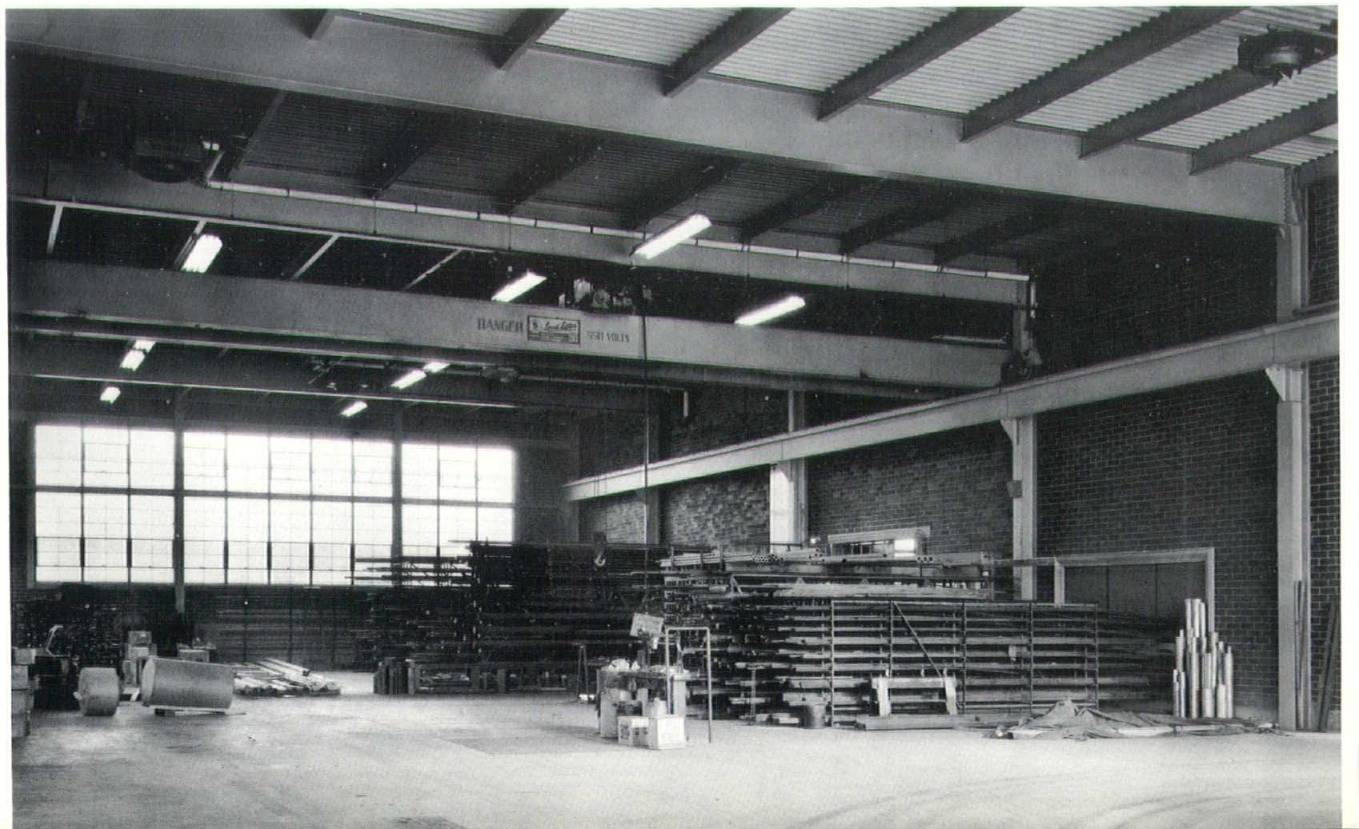
(Text continued on page 46)

Machine Shop
(Continued)



Overhead cranes carry steel from receiving area to the shop for fabrication at the individual machines.

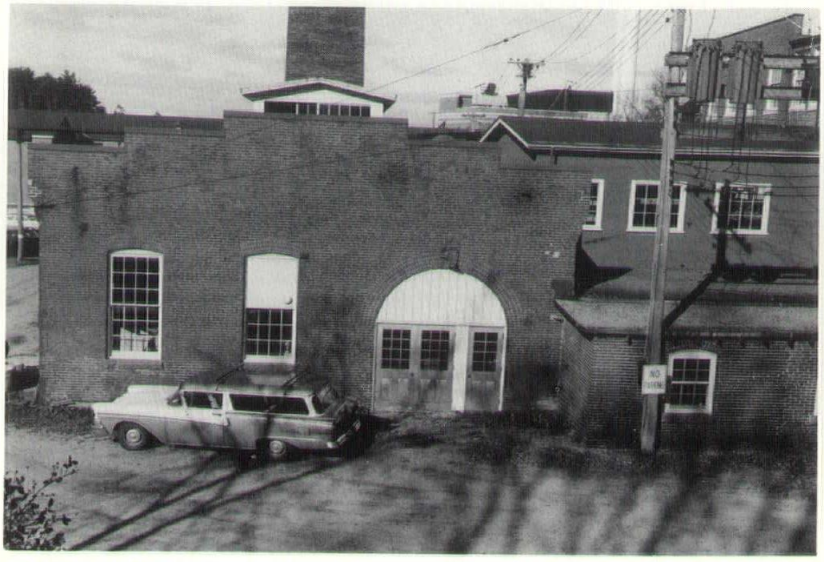
Steel receiving area, looking into new bay (left). Note combined window and light block use, compared to earlier window design in older bay, as seen below.



Owner —
University of New Hampshire
Durham, New Hampshire

Architect —
Irving W. Hersey

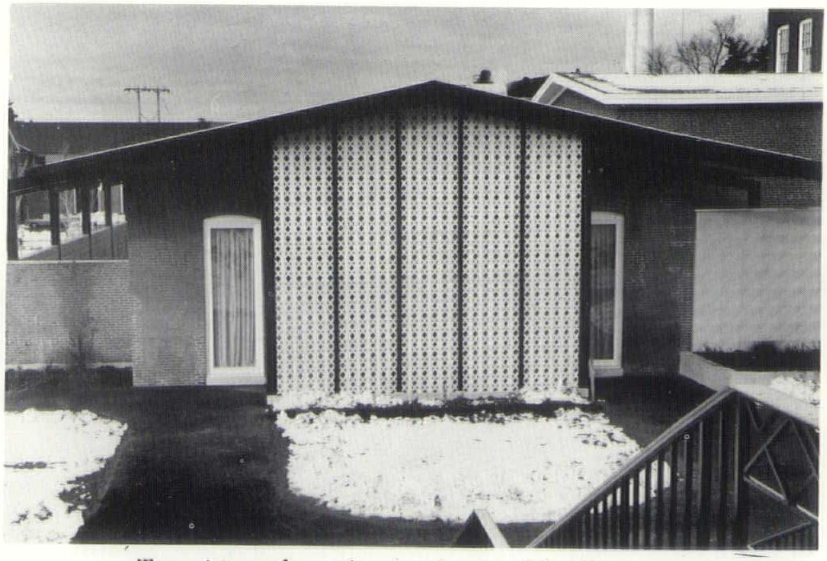
Contractor —
S. E. LaPerle & Sons



Before —

Book Store

— and after



Top picture shows facade of original building. Lower picture shows same view, after remodeling. Note concrete mask, diamond pattern wall at right, concrete courtyard at left.

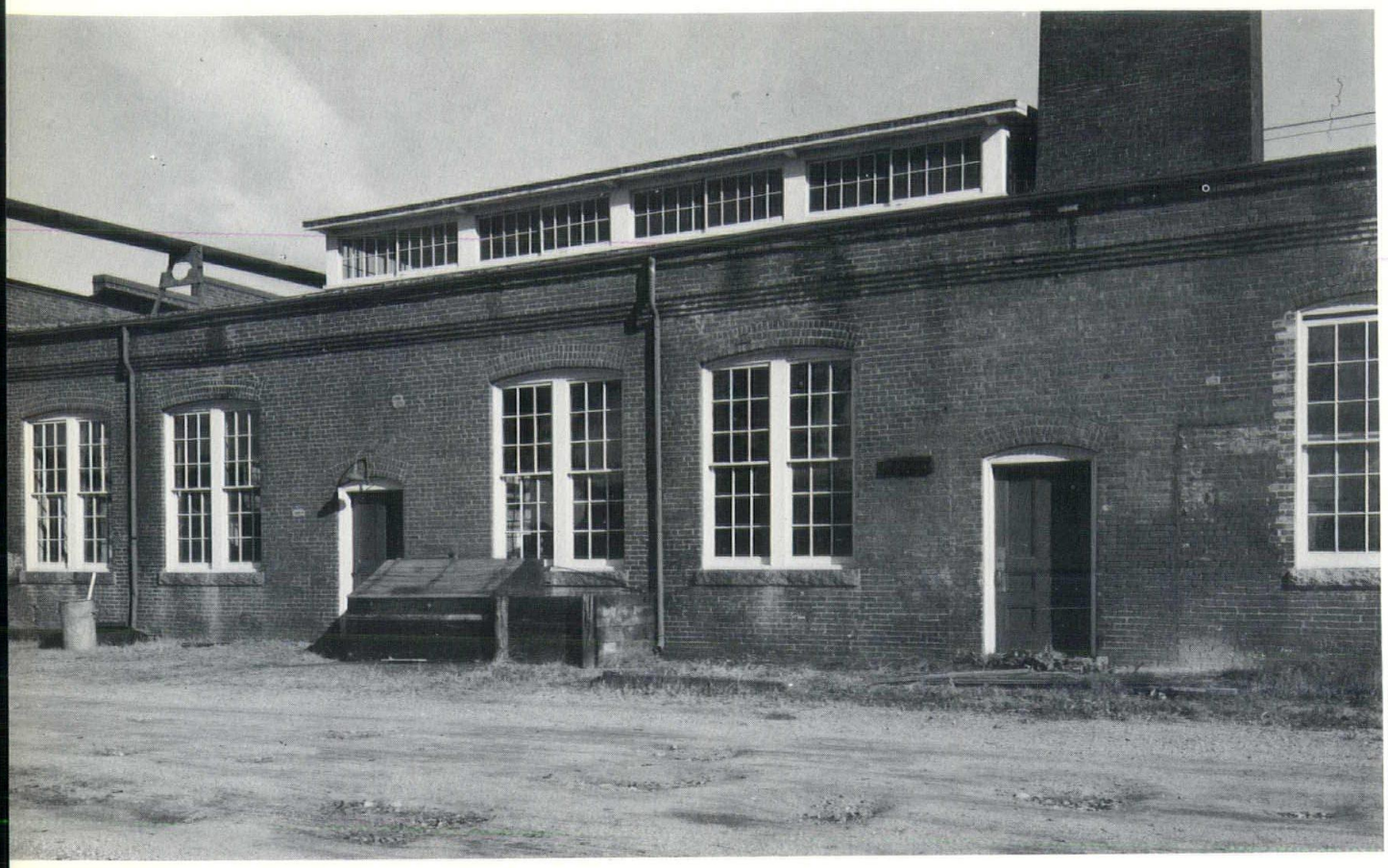
SILK purse out of a sow's ear? Who said it couldn't be done? Architect Irving Hersey used a boiler plant, a forge shop, and part of an apple storage room to make a bookshop at the University of New Hampshire. "You might say we salvaged it," comments Hersey. "We tore out refrigerators, took down chimneys, broke through partitions, took out a skylight. What we had left was the superstructure, the roof, and the walls. It looked like a gymnasium. Then we started to put it back together again."

The old bookstore at the University, in the basement of Thompson Hall, had served the school for more than forty years, and there was a general concensus that new facilities were needed. Norman Myers, vice-president and treasurer of the University, and supervisor of the project, said, "For the new bookstore we chose an area that was not being used effectively. It was one of the first university buildings, but the boilers, part of the original heating plant, hadn't been needed for forty or fifty years. The forge shop, formerly in use as a metals heating laboratory for mechanical engineering students, hadn't been used for four or five years, and the College of Agriculture no longer needed to store apples in such large quantities."

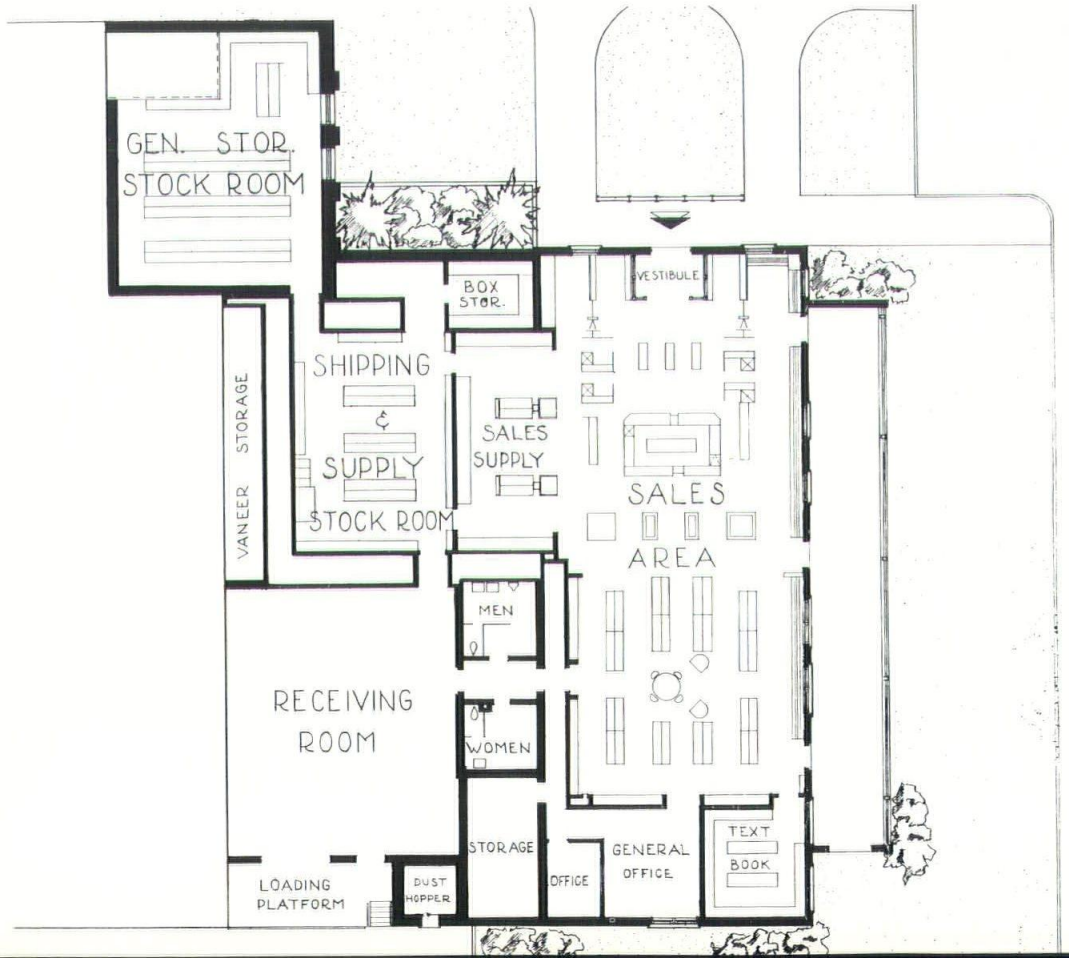
Extensive remodeling, such as was necessary for the bookshop, is almost two jobs in one. A thoroughgoing program of measuring the original building, determining what can be retained and what must be removed, is necessary before any new planning can begin.

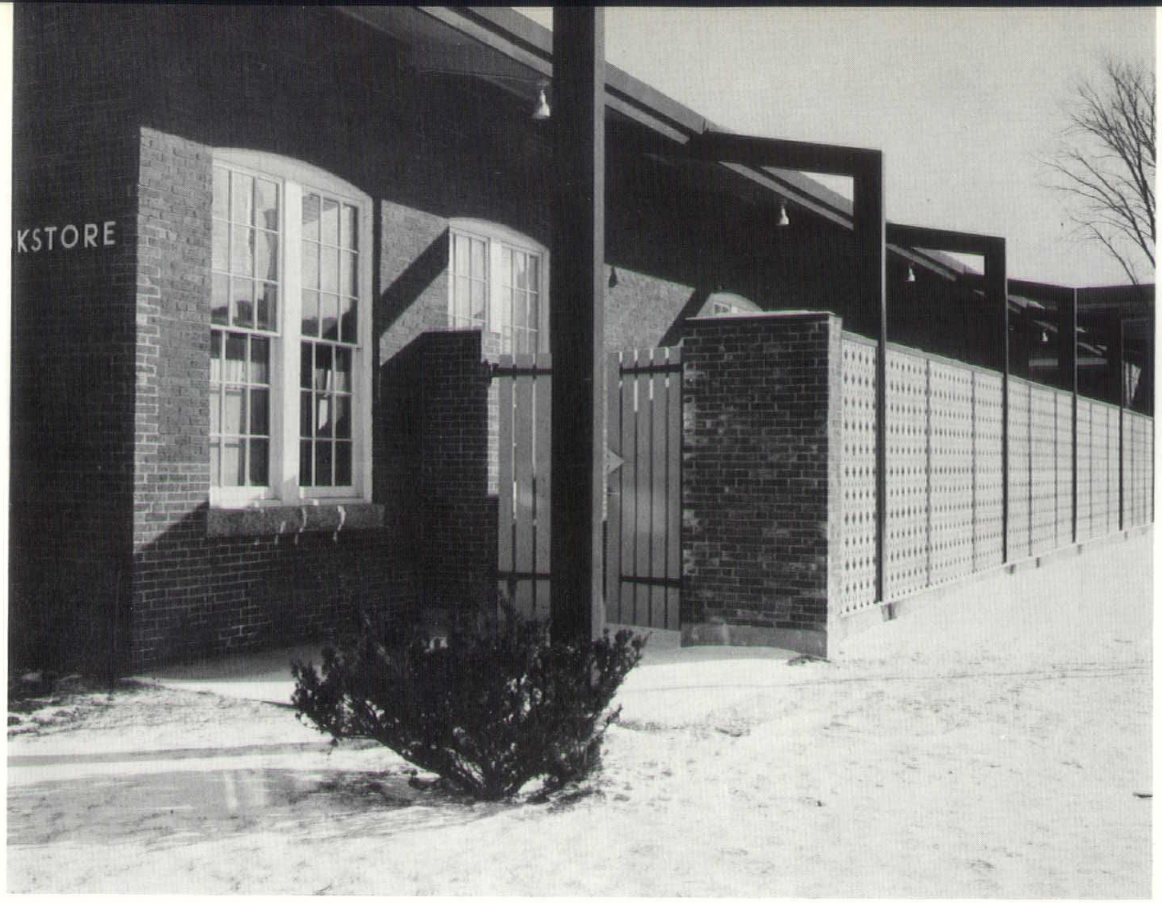
Then, with the re-usable shell as

(Text continued on page 32)



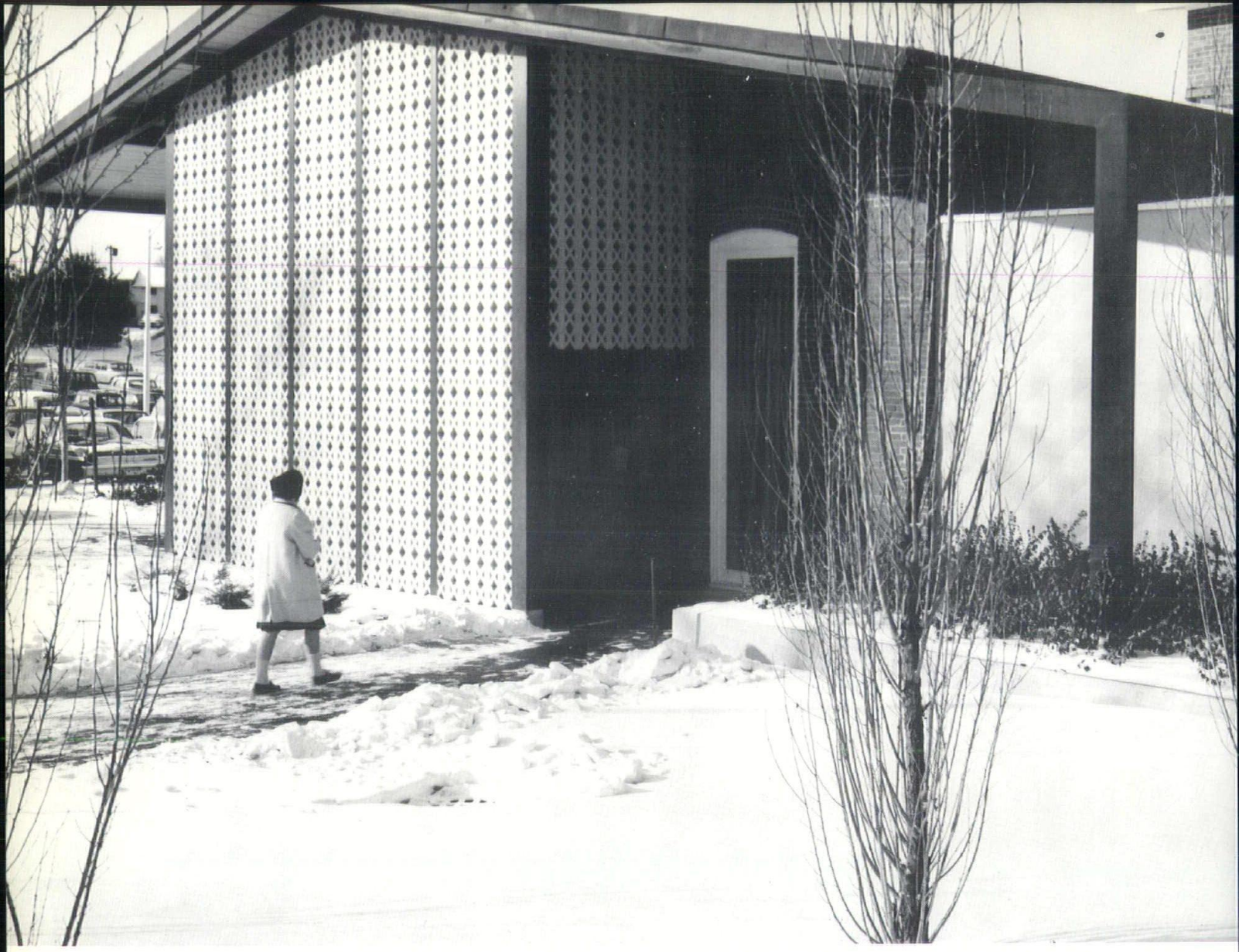
Original south facade. Skylight and chimney were removed before construction began.





Buff concrete masks facade shown on facing page, forms sheltered courtyard.

Particularly from ground level, concrete masks effectively give the renovated building a horizontal feeling.



basis, and the requirements for the new building outlined, the architect can proceed to bring the elements together.

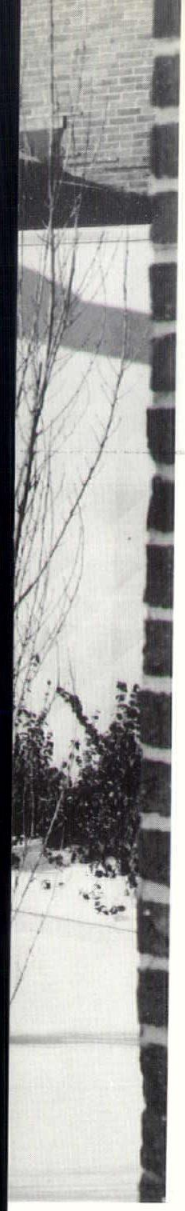
Hersey estimates that 15 to 18% of the present building is represented by remnants of the old structure. The original brick walls are very much in evidence both inside (where they are exposed) and outside, where they have been patched with new brick wherever necessary. The roof of the old building remains, but it has been covered outside with a new pitched roof, and inside, where the building was open to the rafters, with a dropped acoustical ceiling hung on a steel frame. A new concrete floor was poured directly over the pitted floor of the original building.

The old boiler and forge shop is well-disguised both inside and out. The main entrance of the bookshop is flanked by two floor-to-ceiling windows which match in width the original window openings. The pitched roof with beams extending beyond the eaves imparts a contemporary mien to the building. The underside of the roof repeats the buff color of the concrete trim and the diamond-pattern shadow-block wall at the right of the entrance. The buff trim effectively serves as a light-transmitting shield to the doorway.

The same mask is also used in a sheltered courtyard which conceals the long south wall of the building, whose facade remains very much as it was originally. Both these masks are essentially design elements, lending (with the roof) an illusion of horizontality and lightness to an old boiler house which was inherently massive and vertical.

On the west wall, two windows were bricked in and a loading platform constructed. In the receiving area, just inside the platform door, new beams and girders were necessary to replace those removed when a wall of the apple storage area was removed. Since the floor of this

(Text continued on page 48)



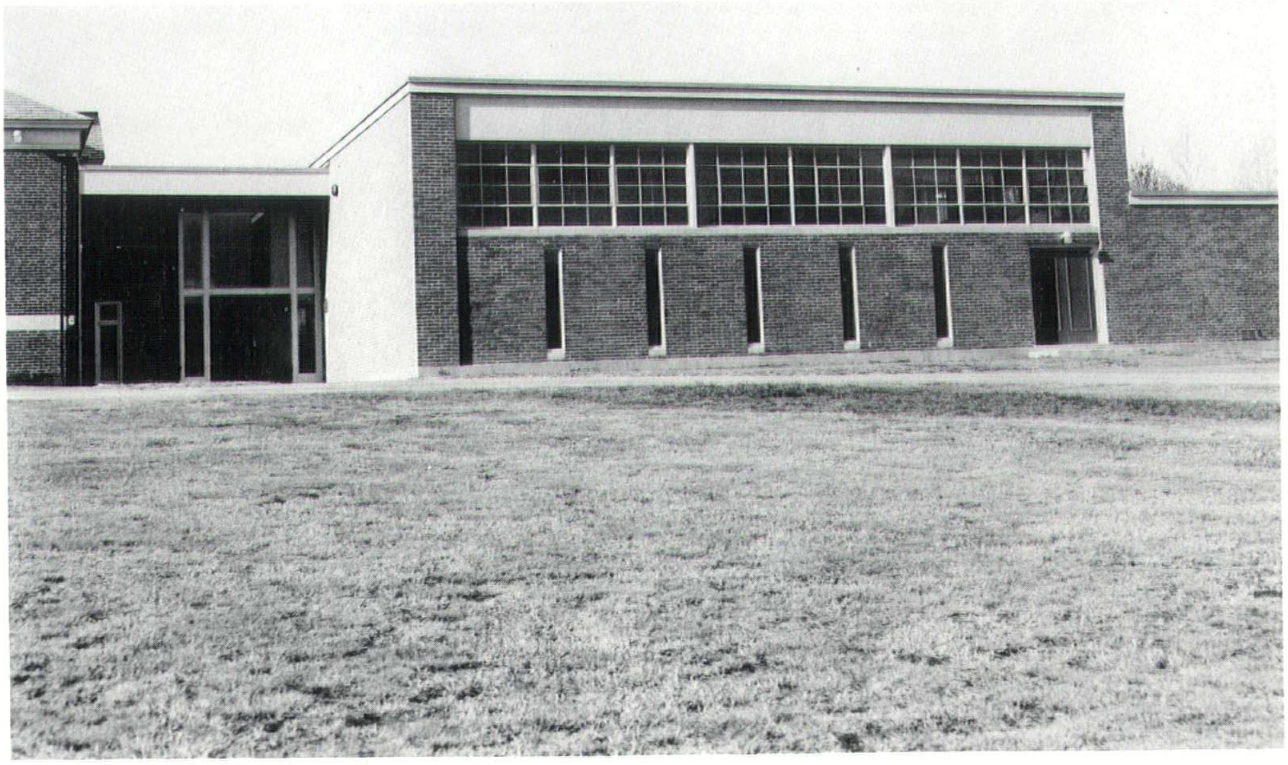
Scale of building and its mask are indicated by photo at left.

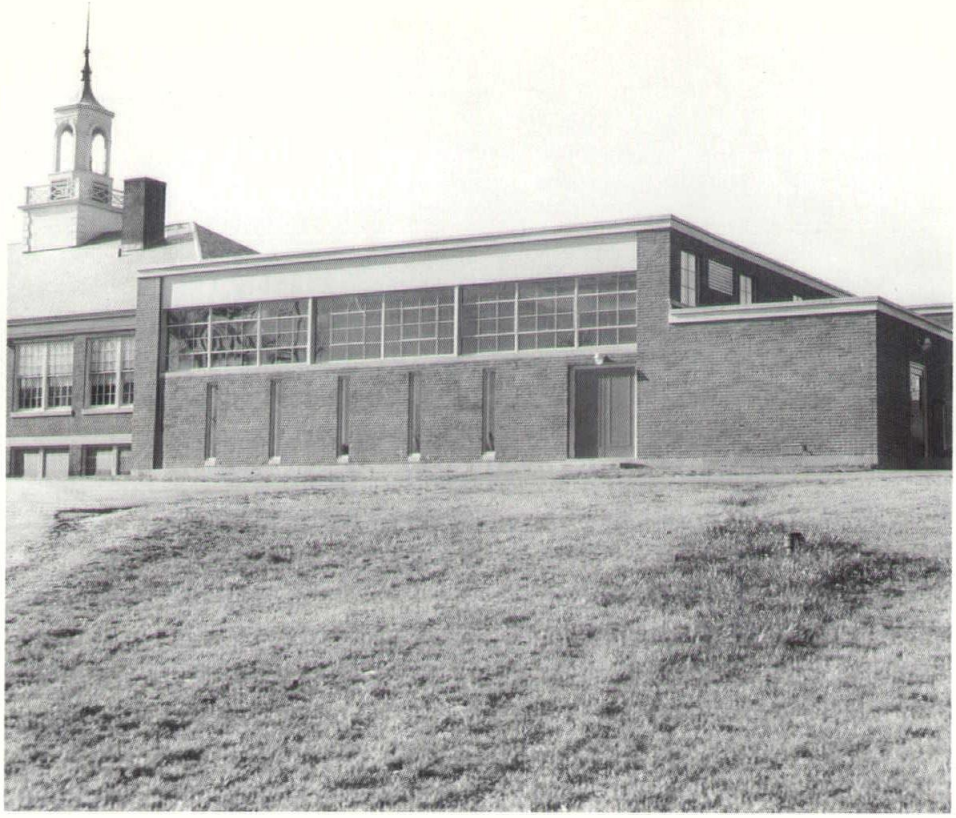
Selling area is well-lighted by ceiling fixtures, and fluorescents in wall troughs.

"a bookstore where students would be exposed to books in pleasant surroundings . . . . "

Sloping site presented a major problem in construction of classroom addition.

Glass-framed doorway forms part of link between old and new.





Contemporary addition harmonizes with existing Georgian building; brick and masonry match.

Fuller School Addition

SMALL building, yes; small problem, no. Architecturally speaking, the size of the project has very little relation to its complexity.

The Fuller Elementary School in Keene had been constructed in the late 1930's on a sloping site. From the front, the building presented a one-story face; at the back, the building was two-storied, with the lower windows partly below ground level.

When the Keene Board of Education asked Architect Arthur Doyle to design a "four-classroom-plus" addition to the original building, Doyle determined to take advantage of the sloping site rather than to allow it to hamper the project.

Beside the classrooms, the addition was to include a multi-purpose room, kitchen, administrative office, teachers' lounge, and toilet facilities.

The glass-framed double door entrance to the addition opens on a single-loaded corridor. To the immediate right is the multi-purpose room which now functions as auditorium, gymnasium, and lunchroom.

From the entrance, stairs lead both up and down; one-half flight down are two classrooms; one-half flight up are two more. On the upper level, even with the main level of the existing building, the architect broke through the wall to connect the existing corridor with the corridor of the addition.

As the original building and the addition now stand, further expansion at either end of the building is possible when classroom loads again grow too large. Architect Doyle anticipates that the population in the Fuller School area will continue to grow, and further additions will be needed.

He states, "There was no purpose in making this addition violently dif-

(Text continued on page 49)

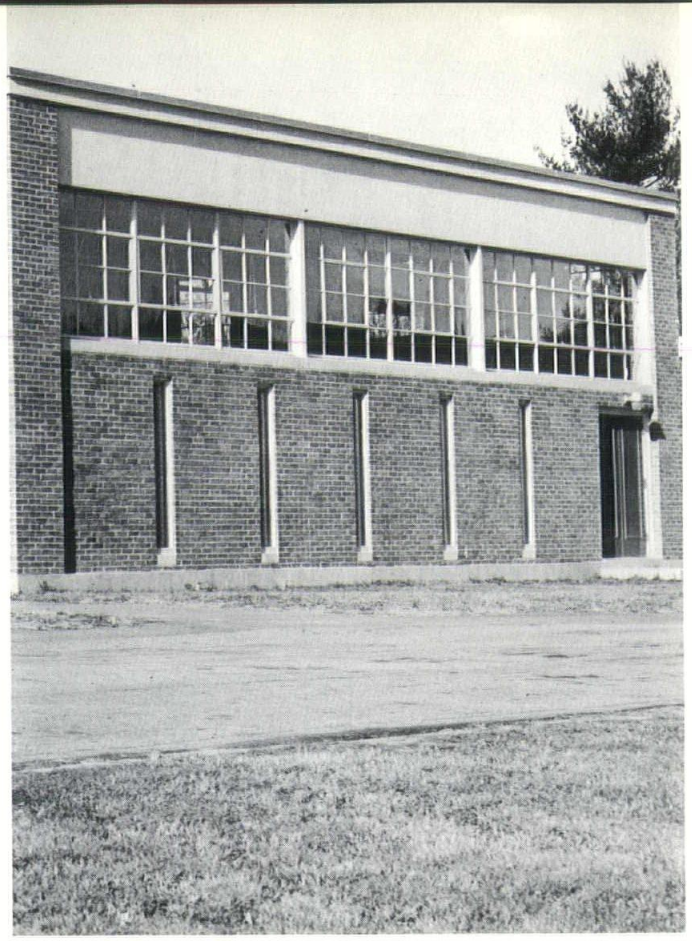
Recreational Development — Allen Organization
Bennington, Vermont

Mechanical & Electrical Engineer —
Fred S. Dubin Associates, Hartford, Conn.

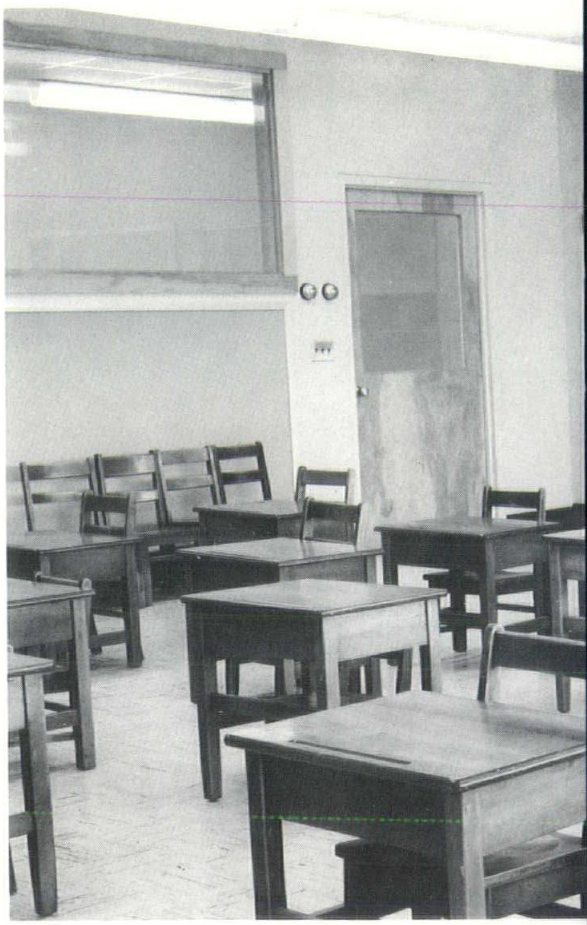
Contractor — The MacMillin Company, Inc., Keene

Structural Engineer —
Thomas T. Amirian,
Boston, Mass.

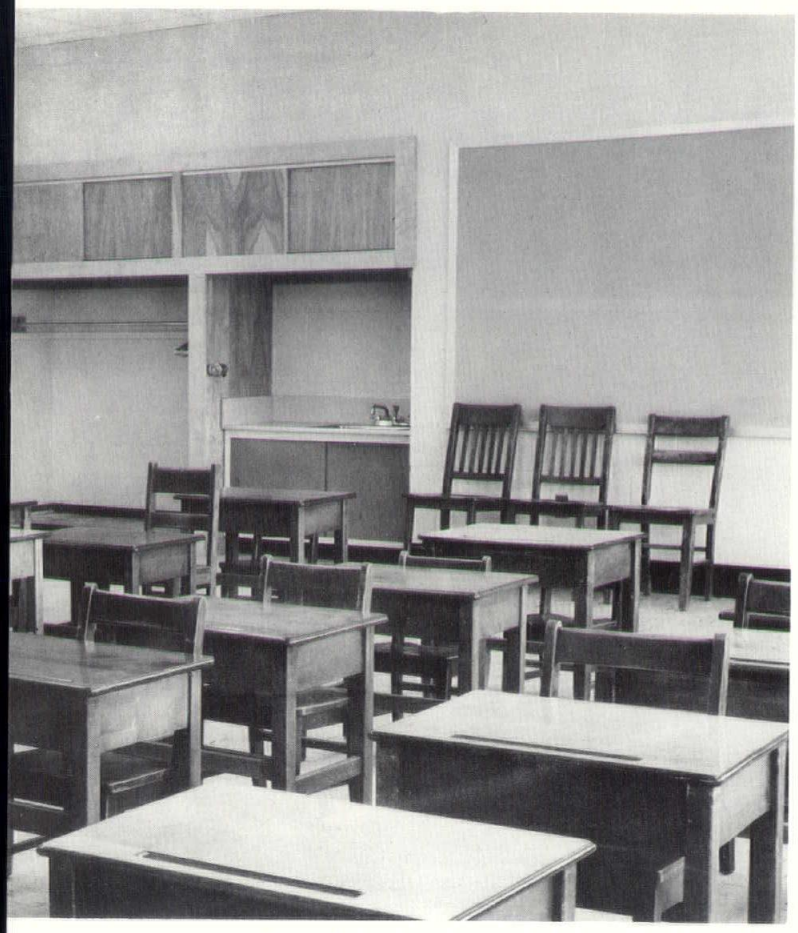
Architect —
Arthur M. Doyle,
Keene



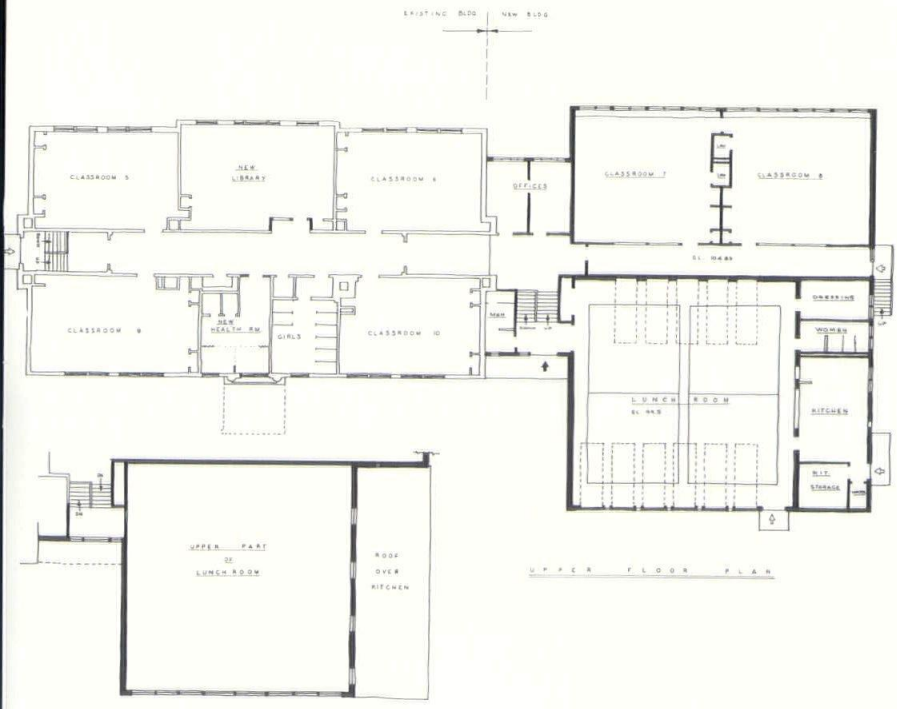
Narrow vertical window panels relieve brick wall's severity.



Window panels let light in, let children look out, yet are narrow enough to escape breakage.



Natural birch trim and light off-white colors decorate the larger-than-average classrooms.



For the

Nashua High School Addition

Weston Associates Bldg.

Kidder Press Shop Addition

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Green Acres School

(Continued from page 23)

small, would have served only as cafeteria and auditorium, instead of the triple functions it now performs.

Architect Isaak regrets that budget dictated elimination of the separate gymnasium. He says, "Physical education is an integral part of the grammar school curriculum, important enough to deserve adequate quarters. With a separate gymnasium provided, we could design a more humanly scaled room for a cafeteria, smaller, more intimate, more attractive."

The present multi-purpose room and kitchen serve more than 300 children. Easily moved tables are stacked at the side of the gymnasium when the playing floor is needed. Movable basketball backboards and a simple pull-out folding stage have also been supplied. "Elementary schools don't need proscenium arches and elaborate lighting," states Isaak.

Limited by budget, Isaak yet desired to design a school which would do more than merely house the youngsters. Fundamentally, he believes that many very young schoolgoers need the reassurance of a homelike warmth during their early school experiences. He believes, too, that the proper start, in the proper atmosphere, lays the foundation for future attitudes toward the educative process. Wherever possible, without incurring excessive costs, Isaak designed to charm a child's eye, using room layout, colors, and Lilliputian scale.

Green Acres School is in the form of a T, with a short stem (entrance, administrative office, kitchen and multi-purpose room), and two long arms (one, to the south-east, houses kindergarten through third grade; the other provides classrooms for fourth through eighth grades).

Contours of the site dictated the northeast-southwest axis of the classroom wings. Contour, too, provided the happy circumstances which allowed the architect functionally to define his areas in levels, four steps down from the administration section to the K-3 wing, four steps up to the 4-8 wing.

Besides its 17 classrooms, health office, teacher's room, multi-purpose room and kitchen, and administrative offices, the Green Acres School boasts a full-size library, almost unique in recent New Hampshire grammar school construction. The library is the pride of Andrew Isaak, despite the fact that rising school enrollment threatens to transform it into an additional classroom in the near future.

Since Isaak believes that youngsters derive a subconscious pleasure from "playful" architectural techniques, he planned the K-3 wing with staggered classrooms, providing interesting jogs in the facade. Then, by simply extending the roof and walls across one of the jogs, he was able to supply the school with an additional room for very little extra money; this room became the library, differing from the classrooms in size and in the fact that its corridor wall is glass.

Hoping to carry the light and bright playful scheme throughout the entire school, Isaak asked for and received permission to suggest colors for the school's interior. Within the school, colors are light and neutral; where light is absent, as in the corridors, a yellow-mustard shade brings sunlight with it; bright-colored classroom doors provide accents, and allow the young children to identify their home rooms by their distinctive doors. The firm prepared a color chart for the Joint School Building Committee's review and approval.

"We treat the building as an organic whole: the fenestration, the interior circulation, the play of light and color . . . all these must appeal to us as right," comments Isaak.

The bearing wall frame is constructed with open web steel joists, employed because Isaak believes they provide freedom of design, flexibility, and strength, and much more economy than a comparable steel frame or concrete system.

The skin is brick with Vampco curtain wall panels. These panels, aluminum and glass, with orange porcelain accents, are prefabricated in twelve-foot modules. Each unit is itself divided into four sections: 4-2-2-4. The two-foot sections contain movable windows, the four-foot sections fixed panels.

Isaak chose the prefabricated wall sections because they provided the speed of construction essential for the Green Acres School, and because they are clean-looking and easy to install and maintain.

The orange color accents were selected with the same desire to lighten and brighten the school that was considered when the brick shades were chosen. Rather than the typical school-house colonial dark reds, Isaak deliberately went to a lighter orange range.

"The challenge," says Isaak, "is to provide the needed space and the necessary functions within the allowed budget, while satisfying structural requirements and the demands of good design."

We feel that when an architect is able to provide children with a "plus," a library, which used to be considered a necessity, a determined effort to retain it is in order. If school planning, in sheer physical terms of classroom space needed, were sufficiently foresighted, children would not undergo the strain of double sessions. And surely, in this age of technical superiority, we should be able to estimate classroom load a year or two ahead, so that schools might be planned deliberately, without costly site errors or unnecessary haste in construction. If Green Acres must give up its library to the population explosion next year or the year after, it seems likely that an additional classroom will be required in the year or two after that. What is saved by putting off necessary construction? What is lost? These questions must be realistically answered by those in charge of city and town school planning, and by the public itself.

The late John Betley was Andrew Isaak's associate on the Green Acres School. It was the last project he completed before his death. Isaak says, "John Betley contributed substantially to the planning and thought that went into this project. It was a privilege to have worked with him. I'm glad to be able to say that he was as pleased as I am with the Green Acres School."

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High School Addition

(Continued from page 9)

new contemporary facade faces west on the opposite side; the north and south sides of the building, each combining sections of the old and new buildings, present unadorned brick surfaces to the public view, so that the juxtaposition of Georgian and contemporary never greets the eye.

The older three-story building was E-shaped; the new one-story addition was constructed across the open ends of the E, forming two completely enclosed courts and allowing the corridors of the older structure to enter the new building where needed.

Nashua's Board of Education had commissioned the educational consultants — Englehardt, Englehardt and Leggett — to study Nashua High School and determine its needs; the Englehardt report presented a clear definition of the project to be placed in the hands of Tracy and Hildreth.

"We like to work with a firm like Englehardt," comments Tracy. "In general, no architect can know as much about schools as an education specialist. We don't find good advice a restriction, and, after all, we're free to disagree. Englehardt helped the city of Nashua develop a definite view of what was needed and this was helpful to us."

Major inadequacies in the existing school were outlined roughly as follows:

- The existing gymnasium could not accommodate either a standard basketball court or the number of spectators usually attracted to indoor athletic events. Furthermore with the existing facilities it was impossible to conduct a complete program of physical education for both boys and girls.
- The original building provided no eating area, so the already inadequate gymnasium had been utilized for this purpose.
- The original industrial arts department was totally inadequate for a community in which high school provides terminal education for a large fraction of the student body.
- Science, music, and library facilities were inadequate.

Therefore, by moving all "arts" to the new addition, existing depart-

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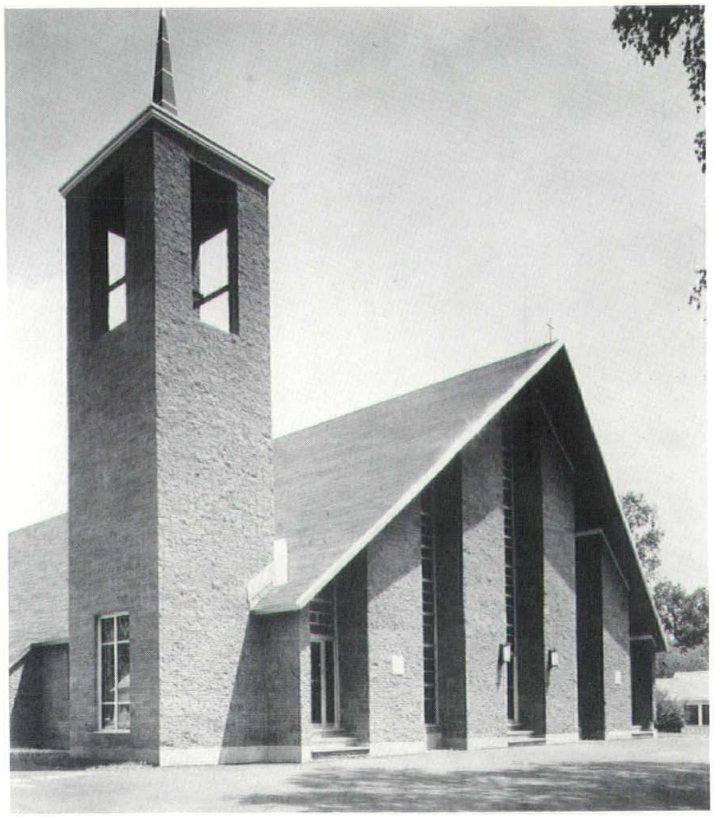

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ments could be expanded. In the original building, the shop areas were modified into standard classrooms, as were areas previously assigned for music instruction; the existing homemaking arts department was modified to permit enlargement of the science laboratories; the library was modified to serve as a guidance department; a new library was constructed in space previously occupied by four classrooms; an enlarged administration suite and a new health suite were provided; and an elevator serving all floors was installed so that handicapped students now had free access to all portions of the building; the old gymnasium, with modification of locker rooms, now provided an adequate physical education department for girls.

Fine arts, industrial arts, practical arts, homemaking arts, all were housed in the addition. The special needs of each department were studied individually and related to the entire complex.

On the right, as one enters the central doorway of the addition, are the homemaking department (sewing and kitchen arts), two fine arts classrooms, and the music department. The band room was designed to serve the dual purposes of education and community service. The Community Concerts, which have long used the Nashua High School auditorium for performances, have been inconvenienced and restricted by lack of dressing room and offstage facilities. Now the new band room, directly behind the stage, can be used as a dressing area for visiting performers. A completely enclosed amphitheater with a stepped floor, it can be divided by a soundproof folding partition into two rooms which can be used simultaneously. The room itself is a "one-spectator auditorium" acoustically designed to direct sound toward the instructor standing in the central pit. Other facilities in the music department include practice rooms, an office, and storage room for instruments and uniforms.

The new addition also houses a cafeteria and kitchen, capable of serving 650 students at a sitting. A faculty dining room, walk-in refrigera-

(Please turn page)

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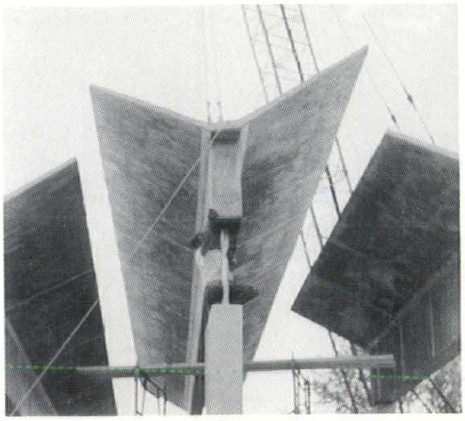
High School Addition

(Continued)

tors, food storage rooms, and dietician's office complete this area. The three serving lines are formed with portable equipment; the steam table, for example, can be filled in the kitchen, then wheeled to electrical outlets in the serving area so that food is kept warm. Normal cafeteria sound is dampened by a staggered wall and by the folded plate roof.

The industrial arts department is well away from other classrooms, with the cafeteria serving as a sound buffer. The enlarged department permits a comprehensive curriculum:



Precast concrete Y-beam in transit

with carpentry, automotive, electrical, machine, sheet metal, and electronics shops, a general shop, and drafting room. The shops, their size and variety, were suggested by Dr. Englehardt and exceed the New Hampshire State Board of Education requirements; they are perhaps the finest in the state.

A wing of the addition, served by its own entrance, is the new physical education department, with gymnasium, exercise room, showers, split-level locker room, storage room, and office. The new gymnasium, with 12,320 square feet of playing floor, can be divided into two equal areas by folding doors, while folding bleachers along the wall will accommodate 1850 spectators.

The frame of the addition is structural steel, except for the cafeteria, which is framed with precast, prestressed structural concrete. Tracy says, "It seemed appropriate to us to treat the cafeteria with additional visual sparkle; it's an area which is used for leisure time activity, for re-

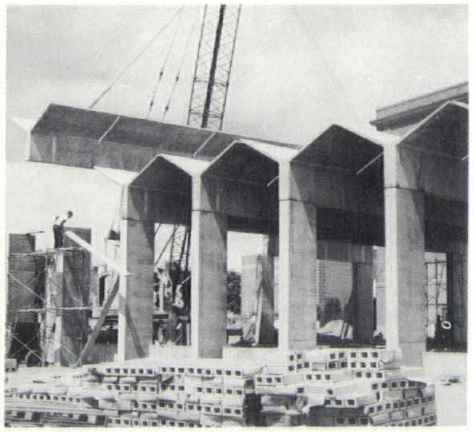
laxation, for pleasure. So we focused attention on it through this use of the concrete."

Indeed striking are the twelve precast concrete columns surmounted by seventy-foot precast "Y" sections which form the folded plate roof of the cafeteria. Reflecting the peaked roof of the cafeteria is the similar motif in the entryway of the gymnasium, again through use of precast concrete.

Color accents serve to define the different areas: at the gymnasium, blue doors and silvery aluminum lace-like grillwork on the shatterproof glass; at the cafeteria, green and white ceramic tile.

Elsewhere colors are neutral. "We considered maintenance," comments Mr. Tracy, "so we restricted our palette. The color scheme is subdued and quiet, but warm, particularly where there is an absence of sunlight. We used cool colors in the gymnasium for obvious reasons, and warm colors where food would be served."

The arts addition provides Nashua with a high school well able to serve the 1850 students now enrolled, and



Man working indicates scale of beams.

capable of accommodating 2000 in the future. Cost for the entire project, including construction, site, the Englehardt study, equipment, alterations in the original building, architect's fees, and miscellaneous charges (legal fees, etc.) was $1,773,000. The addition alone cost $1,624,000.

Although Architect Tracy claims that appearance was secondary in his firm's approach to the arts addition, it is evident that he achieved the synthesis of function and beauty which we believe to be the aim of architecture.

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Agency Offices
(Continued from page 17)

In the midst of some controversy, Weston decided that the original plans were too extreme for the new site. Therefore, modifications and redesigning were undertaken, and completed in less than a month since Weston wished to begin construction and occupy the building as soon as possible. Construction took only five months.

The building was located well back on the site to give it a "front yard" and to escape highway noise. A stand of trees fronting the highway was preserved, and a circular driveway passed in front of the building. At the rear of the area, a paved parking area was planned.

Client Weston urged architect Soule to design a building which could make as great a use as possible of the building materials produced by the advertising agency's clients: Kalwall, Duracrete, and Glazon.

The final design for the pitched-roof building incorporated Kalwall panels, glass, and dark-stained wood for all exterior surfaces, with accents of Kalwall plastic, and skylights of standard Kalwall panels.

The standard translucent Kalwall panels, in four-foot modules, alternate with specially constructed Kalwall panels, orange asbestos on the bottom and a combination of fixed and movable transparent windows above.

The dramatic entry way, with its glass walls reaching to the full height of the peaked roof, is centered in the front facade of the building. The reception area, slate-floored, is several steps below the level of the rest of the building, separated from it by a bank of built-in file drawers, hidden by burlap-covered doors, and three free-standing Kalwall plastic ceiling-high panels.

Exposed roof beams carry the stained wood motif inside and contrast with the white acoustical tile ceiling.

Interior partitions, only six feet tall, are of Luan Mahogany throughout. The reverse of the orange exterior panels is also Luan Mahogany.

Where privacy is desired, glass panes complete the office walls, ex-

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tending from partition top to ceiling, without in any way obstructing the feeling of spaciousness allowed by the low partitions.

A very few basic materials and colors are repeated throughout the building, encouraging a continuity of atmosphere from office to office. Colors are monochromatic, neutral but warm. The same grey carpeting, the same mahogany, the same burlap accents occur over and over again.

Mervin Weston believes that a building should present a unified impression, partly because it is pleasant, but partly because such a restful, non-differentiated atmosphere allows creative people to function most effectively. Furnishings were selected to carry out this unified theme.

After only one year in the new building, the agency had grown sufficiently to require more space, and a seven-office addition was constructed at the rear of the original building. "We planned for expansion," comments Soule. "This building can be expanded indefinitely, straight back, T-shaped, one-story or two, almost any conceivable variation. Even the heating system was designed to expand."

Interior and exterior treatment of the addition duplicated exactly that of the original building. The dark-stained rear wall of the original building served as one wall of the offices immediately adjacent to it.

When the addition was completed, a partition dividing the copy department from the art department in the original building was removed, providing needed enlargement for the art department. The copy department was moved into the new structure.

Both the original building and the addition are slab construction, with heat, telephone lines, etc., embedded in the flooring. Framing is wood post-and-beam construction, the wood beams exposed overhead.

"It was an exciting building to construct. The client was helpful and interested, and we all worked very closely during actual construction. We believe the building fulfills the esthetic, business, and functional aims set forth when we first started its design," concludes Architect Soule.

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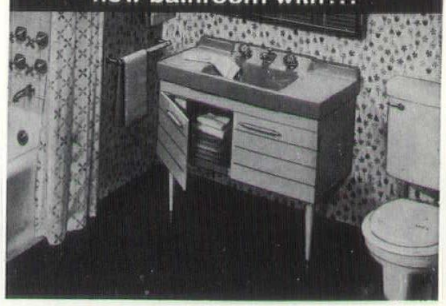

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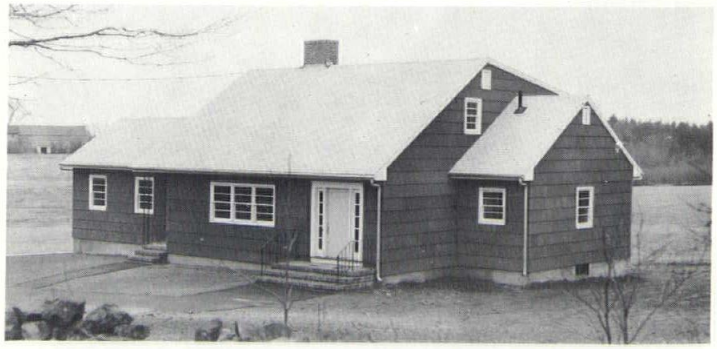

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Machine Shop
(Continued from page 27)

The basic design of the new bay was established by the existing building, by the fixed working areas, and by the need to bring the raw material, steel, into the working area.

Total floor space was expanded from 89′ by 300′ to 150′ by 300′, by the relatively simple expedient of removing the outside wall and rebuilding it 40 feet away. The wall material which made this possible is Natco tile, a complete cellular fire-clay unit, with interior and exterior faces exposed. These tiles, which present a brick-like appearance, are 5¾″ high by 15⅞″ long and 7⅞″ deep. The new bay wall used 60% of the original exterior wall; if the building is expanded again, the tiles can be once more removed and re-used.

Aiding this relatively easy wall removal is the fact that none of the walls of Machine Shop #3 are bearing. It is a self-sustained steel frame structure, designed on a reinforced concrete slab, 10″ thick, which will support minimum weights of 500 pounds per square foot. The roof is steel pan, with insulation, covered with tar and gravel. All steel beams are exposed.

The design of the building was predicated on the needs of the industry and the purpose for which the building would be used. In simplest terms, it is a machine shop. It is simple and economical, yet attractive. The Natco tile requires no care or painting; all materials have been chosen for maximum heavy industrial use and minimum of maintenance. Because the building is of entirely fire-resistant construction, no sprinkler system was necessary.

The Natco tiles are deep purple-red, contrasting with the door and window trim of marble and granite aggregate, a water-proof composition. All doors are steel, including bi-folding vertical-rising truck bay doors.

Steel is introduced to the building in a separate truck and storage area, where a special warm air heating system maintains the temperature and melts accumulated ice and snow from trucks. A drainage trench carries the water away.

Steel is moved from the storage area to the working area via overhead five-ton cranes, under one-man control, and put down at the machines as "gently as letting a baby into a bassinet."

Power is provided to all machines by means of heavy-duty plug-in ducts (bus-ducts) which carry longitudinally through the building, eliminating any suspension conduits.

Heating from hi-bay heating and ventilating units is augmented by direct industrial wall radiation units.

Three-inch wood block flooring was installed over the cement slab through the entire manufacturing area to provide a degree of resilience underfoot for the mechanics who, for the most part, are standing at the machines all day. The flooring also insulates against loss of body heat and helps to eliminate fatigue.

Kidder people estimate even higher than 60 foot-candle intensity in new bay.

Cost of the new bay, exclusive of cranes, heat, and electrical units, was $185,000. Heat, plumbing, and electricity cost an additional $45,000, and the cranes $20,000. All costs were below the original estimates. The surface foot cost was $8.76 complete; heating, plumbing, and electricity, $2.40 per surface foot; cubic foot costs were $.35 for the general construction, $.09 for heating, plumbing, and electricity.

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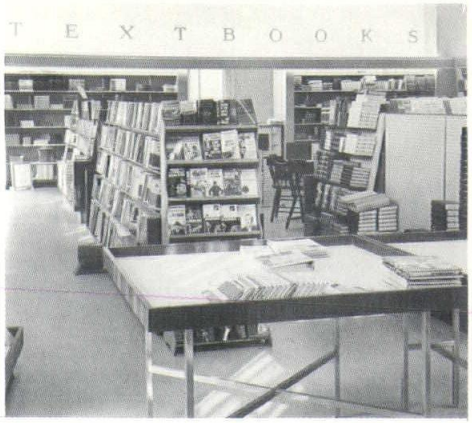
Book Store
(Continued from page 32)

room, at loading platform height, is several feet above the level of the selling area, ramps were constructed for easy transfer of books.

In addition to the main selling area and the receiving room, the interior includes a general office and a manager's office. An equipment consultant, retained by the University, outlined the spatial requirements for the interior.

The selling area is well-lighted by large rectangular and small round flush ceiling fixtures, as well as by fluorescent lights in several wall troughs. The buff paint used for the exterior is used on all interior walls whether of wood, brick, or composition.

The effect is restful, warm, inviting, precisely what the University desired. Mr. Myers states, "We wanted a bookstore where the students would be exposed to books in pleasant surroundings, not so much because the University wishes to make money . . . we sell books at a large discount . . .



Good books in pleasant surroundings

but so that students would become used to the idea of buying books, accept it as a habit. This is as much part of the educative process as courses are. And we want them to be familiar with trade books as well as textbooks.

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Fuller School Addition

(Continued from page 35)

ferent from the existing building; this is no definite statement in opposition; the addition is contemporary, but it harmonizes. Further additions will be able to harmonize, too."

The brick of the addition was selected to match the brick of the existing building. A sample of the masonry trim of the existing Georgian building was matched for masonry trim of the addition.

The brick facade of the multi-purpose room is slashed by five vertical plate glass window panels. An interesting design element, they relieve the wall's severity both inside and outside.

"While we call this a multi-purpose room," comments Doyle, "it was designed with the lunch function in mind. The high walls, obviously necessary when the room is used for a gymnasium, tend to make eating in over-large rooms like this one, like eating in the bottom of a tank. The window panels let the children see something of the outside while they eat, yet the panels are narrow enough so that a basketball can't reach the glass itself."

As in the multi-purpose room, neutral, light, off-white colors decorate the larger-than-average classrooms. Doors and wood trim are natural birch.

Each classroom has sink, work counter, and toilet facilities.

Complementary and necessary changes were made in the existing building while new construction was under way. The former auditorium became a new kindergarten; a library took the place of a class now held in the new building; a health room was designed and constructed in an area near the no-longer-used front entrance.

Framing of the addition is steel bar joists and masonry bearing walls; the skin is brick cavity wall construction. The flat roof is tar and gravel.

Total cost for the project was $191,000.

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Notes and Comment
(Continued from page 7)

Certainly there would have been, then, no such absurdities as a telephone booth with a stained glass window, or "antique" glass for exterior windows, manufactured at extra expense to achieve the defects our ancestors would gladly have corrected had they known how. (This "antique" glass was subsequently found responsible for several fires when it concentrated the sun's rays on fabric – and a special study had to be made to determine just which panes of antique glass had magnifying properties and had therefore to be removed!)

Or consider those fine old-fashioned stone bridges on the Merritt Parkway – remember any with a pointed stone pier? You know what the function of that pointed design was in the original? It was to break up the ice coming downstream in spring. So if any ice floes ever come down the Merritt Parkway, have no fear . . . .

So, you say, this is *reductio ad absurdum*. But is it? Is it any more absurd to have an ice-ram on a highway bridge than it is to have tiny, multi-paned windows in a commercial building or a dormitory or a home – so that the building's occupants have to turn on the lights in the daytime? Our ancestors used small panes because they didn't have facilities for making plate glass, not to mention thermopane. They used small windows because windows let in the cold in the winter and bugs in the summer – and they didn't have adequate insulation facilities or window screens.

Don't misunderstand us. We have nothing against colonial architecture or a lot of the federal architecture and miscellaneous other architecture

which all gets lumped into the word "Colonial." (We figure that if everything labeled colonial on a typical real estate page really *were* colonial, this would set the Declaration of Independence at about 1896.)

But to return to the point, there's nothing wrong with colonial architecture. In its own time and environment, it is honest and handsome. We have nothing but admiration for those who will take the time to restore colonial homes and buildings.

But to re-create — to reproduce — colonial architecture for twentieth century use is something very different. To our way of thinking, it is essentially dishonest. If the designers of the original colonial buildings had had the materials and method available to the contemporary builder — they wouldn't have designed such buildings as they did.

These were *honest* designers. They created the most workable and comfortable and pleasant buildings they could with their own contemporary facilities. Today's designer does the same if he is honest. He takes his tools and his materials, uses his imagination and his skill — and he creates something which is workable and comfortable and handsome. But he doesn't give it a facade or a structure of a couple centuries ago, because it would be silly now to limit our techniques to those of the colonials.

(Please turn page)

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Notes and Comment

(Continued)

Look at it this way: if you *really* want a colonial building, then use no nails, use pegs; use old-fashioned bricks and eight-inch beams; use hand tools, and 18th century roofing materials. Conceivably this might be done for a hobby and be richly rewarding. And the result would be a true and honest reproduction, we suppose.

But we simply can't see the validity or the purpose of designing a superficially colonial edifice — then taking great pains to hide a modern heating system or a laundry chute or the TV set — and on and on. The point becomes much more obvious when you get to the stage of ordering a specially treated and bent steel beam whose function is to give a facsimile of wooden antiquity.

When a layman says he wants a colonial house, he doesn't want the real thing. He wants the warmth, the feeling, the aura, the sense of security, the *spirit* of a colonial house.

Call it what you will. But he doesn't want his plumbing or lighting or heating colonial. And if he thinks about it, he doesn't want a stack of little boxy colonial rooms — he wants a flow of space which is now practical because we have central heating. If you doubt this, consider how many old homes are "modernized" by new owners — by removing partitions and combining rooms.

So again — the client wants the *spirit* which he experienced in an old home — but he wants a new home. Is it not the place of the contemporary architect, if he is a creative artist, to design that *spirit* in terms of present-day materials and methods? Isn't this a more honest way of solving the problem than by the use of what can only be ersatz colonial design — Conolio?

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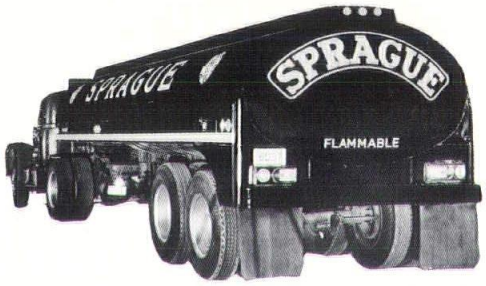

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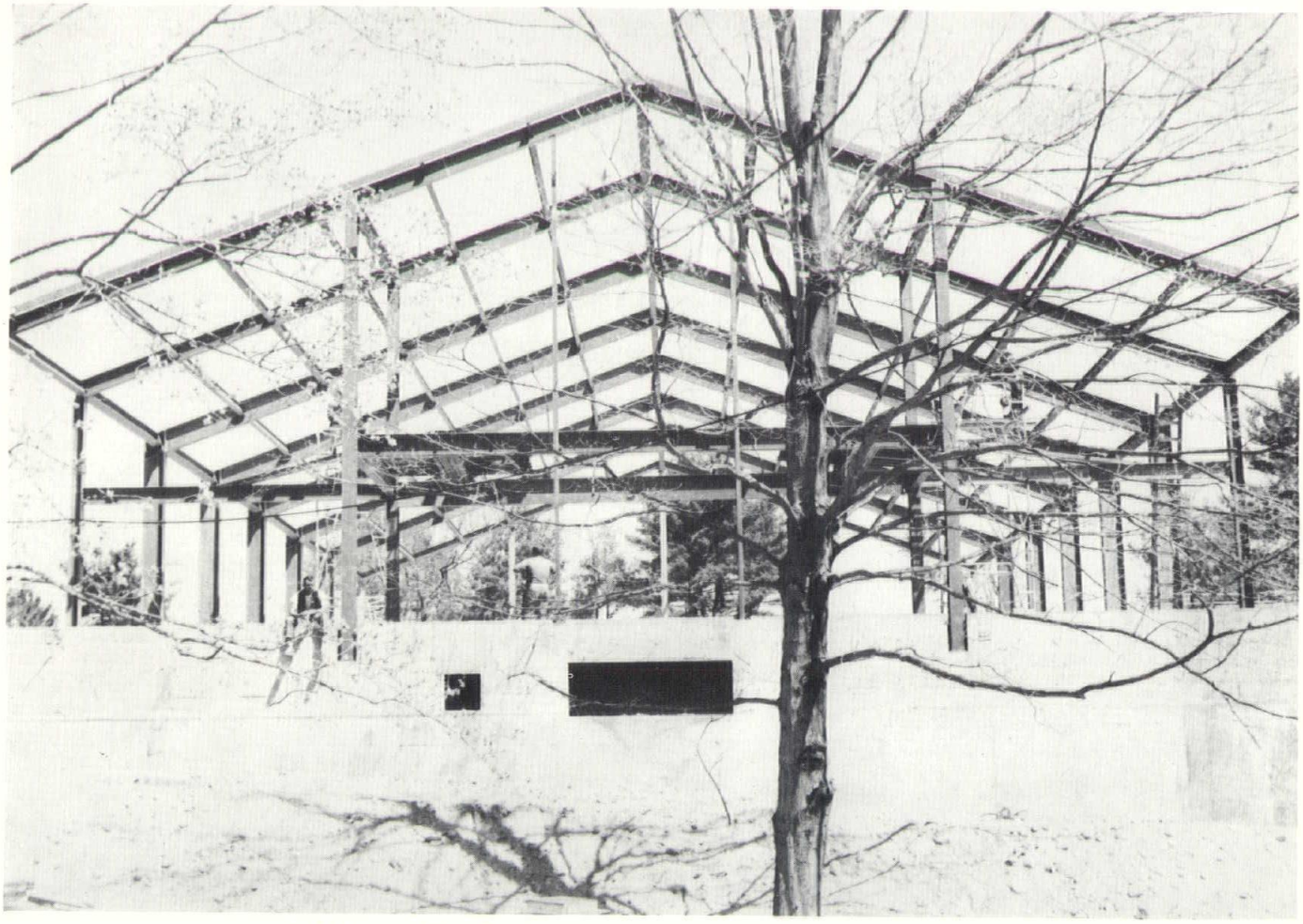

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